1996 ARIZONA BEHAVIORAL RISK FACTOR SURVEY ANNUAL REPORT

EPIDEMIOLOGIC REPORT

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Funded by the Centers for Disease Control
Cooperative Agreement No. U58/CCU900587-14

BEHAVIORAL RISK FACTOR SURVEY (BRFS)
1996 ANNUAL REPORT

ARIZONA DEPARTMENT OF HEALTH SERVICES
DISEASE PREVENTION SERVICES

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ACKNOWLEDGMENTS

This report could not have been completed without the input and assistance from the following individuals.

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A **special thank you** to the Arizona residents for participating in the survey and cooperating with the interviewers.

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EXECUTIVE SUMMARY

This report examines 14 high-risk behaviors and 2 chronic diseases in Arizona for 1996. The Annual Survey Results portion contains information on high-risk behaviors and chronic diseases that are surveyed each year. The Module Survey Results portion contains information on high-risk behaviors and chronic diseases that may or may not be surveyed each year. The Behavioral Risk Factors Survey (BRFS) program continues to be a rich source of unique state level public health data which have become an integral part of overall health promotion and disease prevention/intervention planning.

Highlights of the 1996 Behavioral Risk Factors Survey:

- Of all of the surveyed high-risk behaviors and chronic diseases, arthritis was the only condition among which non-Hispanics had a higher prevalence than Hispanics.

- The prevalence of chronic drinking among Arizona residents has increased from 2.4% in 1995 to 4.9% in 1996.

- 88.0% of persons reporting drinking and driving were male.

- 28.4% of all Hispanics surveyed reported that they do not have health care coverage.

- 85.8% of female respondents 65 years of age or older reported that they have had a mammogram.

- The prevalence of overweight Arizona residents continues to gradually increase. 24.8% of respondents had a body mass index that classified them as overweight.

- 55.1% of persons reporting that they did not participate in leisure-time physical activity in the past month were women.

- The prevalence of smoking among persons earning <10,000 dollars per year was 31.1%. This percentage was greater than the 13.3% of persons who earn $75,000 dollars per year and are smokers.

- 45.4% of respondents 65 years of age or older reported that they were told they have arthritis.

- Among persons who have not seen a dentist within the last 12 months, the reason most often given was that they had no dental problems.

- 71.3% of respondents age 65 and older reported that they received an influenza vaccination in the last 12 months.

- 38.5% of respondents with children reported that their oldest child never wears a bicycle helmet while riding their bicycle.

1996 Behavioral Risk Factor Survey: Risk Factor/Chronic Disease Prevalence, Percentage Within Demographic Groups

GROUPS	Risk Factor (Prevalence)								
	Diabetes	Acute (Binge) Drinking	Chronic Drinking	Drinking and Driving	No Health Care Coverage	* No Mammography	Overweight (BMI)	Safety Belt Non-Use	No Leisure-time Activity
Sex									
Male	4.2	20.2	8.0	5.8	18.6	-	27.8	16.8	30.7
Female	2.9	7.3	1.9	0.7	15.2	15.5	21.9	9.7	35.7
Age									
18 - 24		21.3	6.0	9.6	32.8	-	9.6	19.8	27.5
25 - 34	1.2	21.7	5.0	4.3	24.8	-	26.1	13.9	24.6
35 - 44		16.7	5.7	3.5	21.0	22.7	30.4	19.0	41.6
45 - 54	5.5	9.0	3.0		10.9	17.4	26.1	9.3	30.6
55 - 64	9.0	6.9	5.2	0.8		9.7	32.2	9.3	37.7
65+	5.7	3.6	4.7		4.3	14.2	21.5	6.9	37.4
Education									
Never Attended School									
Elementary	9.4	15.1	6.8	4.1	32.1	22.9	32.5	35.2	65.3
Some High School					33.5		38.3	17.0	51.9
High School Graduate or GED	4.1	12.8	6.5	2.2	19.4	16.0	25.8	13.3	38.9
Some College or Tech School	2.6	13.9	4.6	3.9	15.5	14.4	24.2	12.4	29.7
College Grad	1.5	13.3	2.7	2.9	8.6	12.9	19.5	8.8	20.7
Income									
< $10,000		17.4			33.3		19.7	17.7	41.0
$10 - $14,999	3.4	15.4	10.3	3.5	36.5	32.6	45.2	13.1	46.4
$15 - $19,999		17.4			29.7		25.4	20.3	35.7
$20 - $24,999	3.5	6.7	4.6		25.3	11.4	32.2	19.7	39.5
$25 - $34,999		23.8	6.1	4.8	14.0	15.3	17.6	17.3	40.1
$35 - $49,999	3.5	16.5	5.4	3.6	9.2	17.3	26.5	8.5	31.7
$50 - $74,999		14.2			8.8		25.7	12.2	18.4
$$75,000	3.5	21.6	6.9	3.9	7.7	14.0	26.6	19.1	16.4
Race									
White	3.5	13.3	4.4	3.0	14.3	15.0	23.5	12.4	33.5
Non-White	3.7	15.0	8.3	4.1	32.7	21.6	32.8	17.7	31.7
Ethnicity									
Hispanic	5.0	20.4	7.9	6.0	28.4	18.2	29.9	18.2	41.0
Non-Hispanic	3.3	12.4	4.4	2.7	14.9	15.3	24.0	12.3	32.0

* Among women 40 years of age or older. ** Among persons 18 - 64 years of age. M Among women 18-44 years of age. - = Not applicable

1996 Behavioral Risk Factor Survey: Risk Factor/Chronic Disease Prevalence, Percentage Within Demographic Groups

GROUPS	Risk Factor (Prevalence)						
	Current Smoker	**Not HIV Tested	Arthritis	No Dental Care in the last 12 Months	No Influenza Vaccination in the last 12 Months	Physical Violence Victim in the past 12 Months	M Not Heard of Folic Acid
Sex							
Male	27.0	52.1	15.8	34.6	63.8	7.4	-
Female	20.5	54.7	22.9	26.4	64.9	3.2	47.6
Age							
18 - 24	21.7	51.4		27.8	68.6	20.1	60.4
25 - 34	27.5	41.8	4.4	31.2	80.6	6.5	51.4
35 - 44	32.7	49.0	15.7	34.6	78.7	5.8	36.2
45 - 54	25.6	67.3	18.2	23.6	71.0		-
55 - 64	22.6	67.0	29.8	33.7	52.6	0.4	-
65+	9.8	-	45.4	30.7	28.7		-
Education							
Never Attended School							
Elementary	27.8	73.4	15.9	63.1	64.4	11.3	70.0
Some High School	34.9	56.5	24.3	49.8	71.3		
High School Graduate or GED	26.9	54.6	18.9	34.6	64.0	6.4	57.6
Some College or Tech School	20.3	54.1	20.3	26.9	60.1	3.4	38.0
College Grad	20.6	47.6	18.2	19.1	68.8	3.6	24.3
Income							
< $10,000	31.1	51.5	10.5	53.2	79.4	10.9	
$10 - $14,999	26.8	57.8	25.3	29.6	69.7	17.6	27.6
$15 - $19,999	33.1	46.8	18.5	34.9	60.8		64.6
$20 - $24,999	25.1	46.1	13.9	41.4	71.5	6.9	57.0
$25 - $34,999	28.5	47.6	23.9	30.4	65.2	8.5	37.3
$35 - $49,999	21.3	49.8	19.3	24.4	68.4		44.8
$50 - $74,999	26.5	61.0	13.5	25.6	70.0	3.3	32.9
$$75,000	13.3	49.4	26.3	11.8	74.0		51.8
Race							
White	23.4	52.7	21.2	28.9	62.9	4.6	40.0
Non-White	25.9	56.7	9.0	40.3	73.5	9.5	62.4
Ethnicity							
Hispanic	28.0	54.9	10.6	32.3	76.6	16.0	59.0
Non-Hispanic	23.0	53.1	20.9	30.2	62.4	3.4	43.7

***** Among women 40 years of age or older. ****** Among persons 18 - 64 years of age. M Among women 18-44 years of age. - = Not applicable

RISK FACTORS/CHRONIC DISEASE DEFINITIONS

Acute (Binge) Drinking	Respondents reporting they had five or more alcoholic drinks on one or more occasions, in the past month.
Arthritis	Respondents reporting that they were told by a doctor they had arthritis.
Chronic Drinking	Respondents reporting they had on average 60 or more alcoholic drinks a month.
Current Smoking	Respondents reporting smoking 100 cigarettes and who smoke now (regularly and irregularly).
Diabetes	Respondents reporting that they have been told by a doctor that they have diabetes.
Drinking and Driving	Respondents reporting they have driven after having too much alcohol to drink one or more times in the past month.
Folic Acid	Female respondents ages 18 to 44 years reporting that they have not heard of folic acid.
Fruits/Vegetables	Respondents reporting that they consume less than five servings of fruits and vegetables daily.
Health Care Plan	Respondents reporting that they do not have health care coverage.
HIV/AIDS Testing	Respondents ages 18 to 64 years reporting that they have not been tested for HIV.
Injury Control	a) Respondents reporting that their oldest child never wears a bicycle helmet. b) Respondents reporting that they never test all the smoke detectors in their home.
Mammography	Female respondents 40 years of age and older reporting that they have never had a mammogram.
Mammography and/or Breast Exam	Female respondents 40 years of age and older reporting that they have never had a mammogram and/or clinical breast examination.
No Dental Care	Respondents reporting that they have not visited a dentist in the last 12 months.
No Influenza Vaccination	Respondents reporting that they have not had an influenza vaccination in

	the last 12 months.
No Leisure-Time Activity	Respondents reporting that they did not participate in physical activity in the past month.
Overweight	The CDC defines obesity as: females with a BMI (Body Mass Index) $27.3 and males with a BMI $27.8 (BMI is weight in kilograms divided by height in meters squared (W/H^2).
Physical Violence	Respondents reporting that they were a victim of physical violence in the past 12 months.
Safety Belt Non-Use	Respondents reporting they "sometimes," "seldom," or "never" use safety belts.

INTRODUCTION

In 1995, 35,428 Arizona residents died. The 1995 Arizona death rate* of 549.5 per 100,000 persons was higher than the U.S. death rate* of 502.9 per 100,000 persons. The table below lists the top 10 causes of death of Arizona residents in 1995. The death rate for 7 out of 10 of these causes was higher in Arizona than the U.S. The 3 causes of death that Arizona did not exceed U.S. death rates were cancer, diabetes, and infectious parasitic diseases.[1]

It is well known that much disease and injury morbidity and mortality is associated with high-risk behaviors. Behaviors which contribute significantly to disease and death include cigarette smoking, physical inactivity and alcohol consumption.[2] Measurements of the prevalence of high risk behavior serves as an indicator for potential morbidity and mortality. This measurement provides information on the persons most likely to engage in this behavior.

Arizona has participated in the Behavioral Risk Factor Survey (BRFS) since 1982. Through a cooperative agreement with the Centers for Disease Control and Prevention (CDC), the Arizona Department of Health Services (ADHS) implemented BRFS as a method to collect data annually on health risk behaviors of adult residents, 18 years of age and older, excluding institutionalized persons. The purpose of BRFS is to provide data that can be used to plan, implement and monitor health promotion and disease prevention efforts among Arizonans.

***** All death rates are age-adjusted all cause mortality rates adjusted to the 1940 U.S. population.

1995 ARIZONA LEADING CAUSES OF DEATH

RANK	CAUSE OF DEATH	NUMBER OF DEATHS	PERCENTAGE OF TOTAL DEATHS
1	Heart Disease	10,104	28.5%
2	Cancer	7,993	22.6%
3	Cerebrovascular Disease	2,191	6.2%
4	Chronic Obstructive Pulmonary Disease	2,037	5.7%
5	Unintentional Injury	1,973	5.6%
6	Influenza and Pneumonia	1,179	3.3%
7	Infectious Parasitic Diseases	996	2.8%
8	Suicide	858	2.4%
9	Diabetes	810	2.3%
10	Homicide/Legal intervention	548	1.5%

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1. Mrela C. Arizona Health Status and Vital Statistics. Office of Health Planning, Evaluation and Statistics. Arizona Department of Health Services, 1995.
2. Centers for Disease Control and Prevention. CDC Surveillance Summaries, December 27, 1996. MMWR 1996; 45 (No. SS-6).

METHODOLOGY

A. SAMPLING DESIGN

The Arizona BRFS is a random sample telephone survey. Using the Waksberg cluster-based version of random digit dialing and Computer Assisted Telephone Interviewing (CATI) system, the survey has the potential of representing 97% of all households in Arizona (ie., those that have telephones) (U.S. West Communications data). A cluster size of three was used for maximum efficiency and minimum loss of precision. A sample size of 1,957 interviews over a 12-month period was selected to achieve an acceptable 95% confidence interval of ±3% on risk factor prevalence estimates of the adult population. This means that the estimated prevalence of any risk factor from the survey represents the total population of Arizona residents very well. Prevalence estimates of individual demographic variables, containing smaller sample sizes, do not achieve the same level of accuracy as the total sample.

Interviewers, employed by ADHS, contacted the residences during weekdays between 9:00 a.m. and 9:00 p.m. and Saturdays between 8:30 a.m. and 4:30 p.m. After a residence had been contacted, one adult (18 years of age or older) was selected from all adults residing in the household to be interviewed. Interviews were collected during a two-week period each month. The response rate for this year's survey was 82.2%.

B. QUESTIONNAIRE

The questionnaire, designed through cooperative agreements with the CDC, was divided into three sections. The first section contained questions on health risk behavior; the second section contained demographic information; and the third section contained optional modules.

C. DATA ANALYSIS

The data collected by the ADHS Office of Chronic Disease Epidemiology was compiled and weighted by the CDC. Weighted counts were based on the 1996 Arizona population to accurately reflect the population demographics. The weighting factor considered the number of adults and telephone lines in the household, cluster size, stratum size, and age/race/sex distribution of the general population.

All analysis presented are based on cell size counts of at least 8 cases. The demographic information that was collected and presented in these results includes sex, age, education, household income, race, and ethnicity.

Analysis for the table “1996 Behavioral Risk Factor Survey: Risk Factor Prevalence, Percentage Within Demographic Groups” were conducted by the CDC. This table presents the percentage of high-risk behavior within each demographic group for each of the 14 risk factors and 2 chronic diseases. The analysis of high risk groups for the results of each section was conducted by the Office of Chronic Disease Epidemiology. These tables present the demographic information for persons reporting a high-risk behavior or chronic disease.

I
ANNUAL SURVEY RESULTS: ANALYSIS OF HIGH RISK GROUPS

A. DIABETES

Diabetes is associated with long-term complications that affect almost every major part of the body. This chronic and disabling condition affects primarily older individuals. It can cause blindness, heart disease, strokes, kidney failure, amputations, nerve damage, and birth defects in babies born to women with diabetes. Because the U.S. population continues to grow older, concerns on maintaining quality of life have sparked an interest in controlling the onset and related illnesses of persons with diabetes.[1,2]

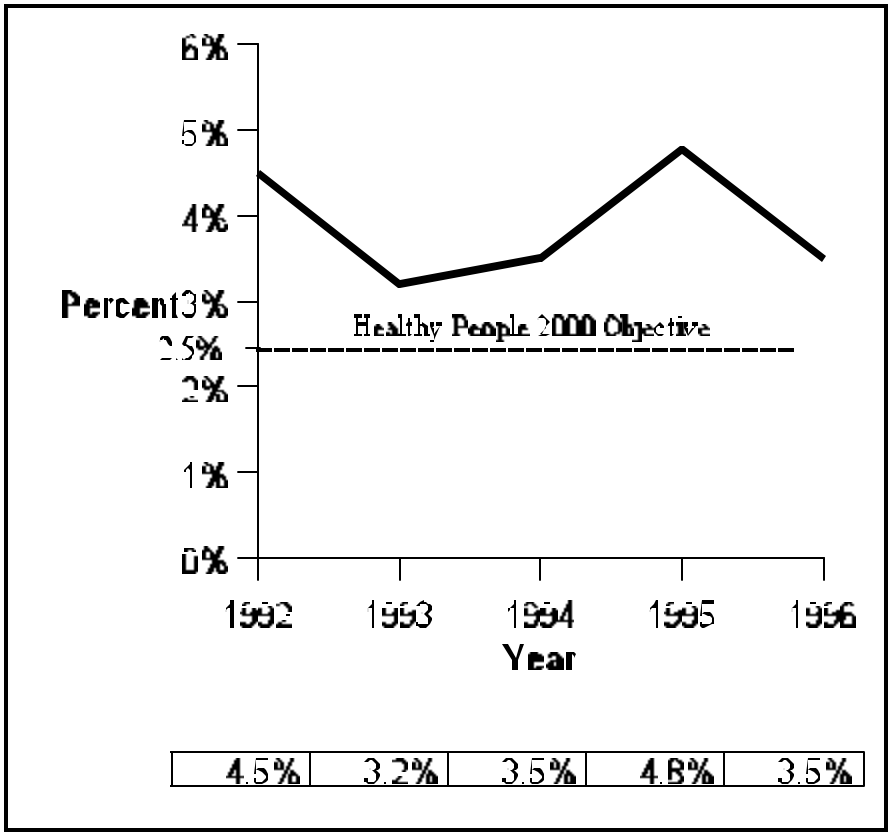

Figure I-A-1. 1992-1996 percent of BRFS respondents reporting that they were told they had diabetes along with the *Healthy People 2000* Objective 17.11.

According to the 1996 BRFS, 3.5% of all respondents reported that they were told they have diabetes. This percentage, shown in Figure I-A-1, is a decrease from the 4.8% reported in 1995. The National Center for Health Statistics *Healthy People 2000 Review 1995-1996* has defined its objective for diabetes prevalence at 2.5% by the year 2000.

Table I-A-1 on the opposite page describes the survey respondents who reported as having diabetes. Slightly greater than half (58.0%) of these individuals are male. Most diabetic persons are 55 years of age or older (57.5%) and 67.9% of them have at least a high school education. Reported diabetics are primarily white (85.4%) and non-Hispanic (79.5%). The average household income for 23.0% of these persons was less than $25,000 dollars per year.

As a special section of the 1996 Arizona Behavioral Risk Factor Surveillance Survey, diabetics were asked an additional series of questions pertaining to the control of their condition. Of those responding, 38.5% reported that they take insulin. All diabetics who take insulin reported using insulin at least once per day with 62.0% of these taking insulin more than one time per day.

1996 Arizona BRFS Characteristics of persons told they had diabetes	
GROUPS	PERCENTAGE
Sex	
Male	58.0
Female	42.0
Age	
18-24	18.6
25-34	
35-44	
45-54	23.8
55-64	27.7
65+	29.8
Education	
Never Attended School	32.1
Elementary	
Some High School	
High School Graduate or GED	32.6
Some College or Tech School	24.4
College Grad	10.9
Income	
< $10,000	6.4
$10-$14,999	
$15-$19,999	16.6
$20-$24,999	
$25-$34,999	28.0
$35-$49,999	
$50-$74,999	17.9
$$75,000	
Refused/Unknown	31.1
Race	
White	85.4
Non-White	14.6
Ethnicity	
Hispanic	20.5
Non-Hispanic	79.5

Table I-A-1. 1996 BRFS results: characteristics of persons told that they had diabetes.

When asked how often they check their blood sugar level, 83.5% of the diabetics who take insulin stated "one or more times per day." In contrast only 29.2% of diabetics who do not take insulin reported checking their blood sugar levels one or more times per day.

Finally, *Healthy People 2000* objective 17.23 sets a goal in order to increase to 70% the number of diabetics receiving annual dilated eye exams to detect treatable retinopathy. Of the diabetics responding in the 1996 BRFS survey, 63.9% report receiving an annual dilated eye exam.[2]

References

1. Diabetes Overview, 1993, Vol. 92 Issue 3235, p1, 5p.

2. National Center for Health Statistics. Healthy People 2000 Review, 1995-96. Hyattsville, Maryland: Public Health Service. 1996.

B. ACUTE (BINGE) DRINKING

In 1992 through 1993 the U.S. BRFS reported binge drinking behavior in 14.25% of U.S. adults 18 years of age and older.[1] The social and health consequences of acute alcohol abuse include: intentional injuries such as suicide and homicide, motor vehicle crashes, and family life disruption.[2] The repercussions of binge drinking among approximately 26 million Americans affects each of us personally as well as increasing our societal health care expenses.[3]

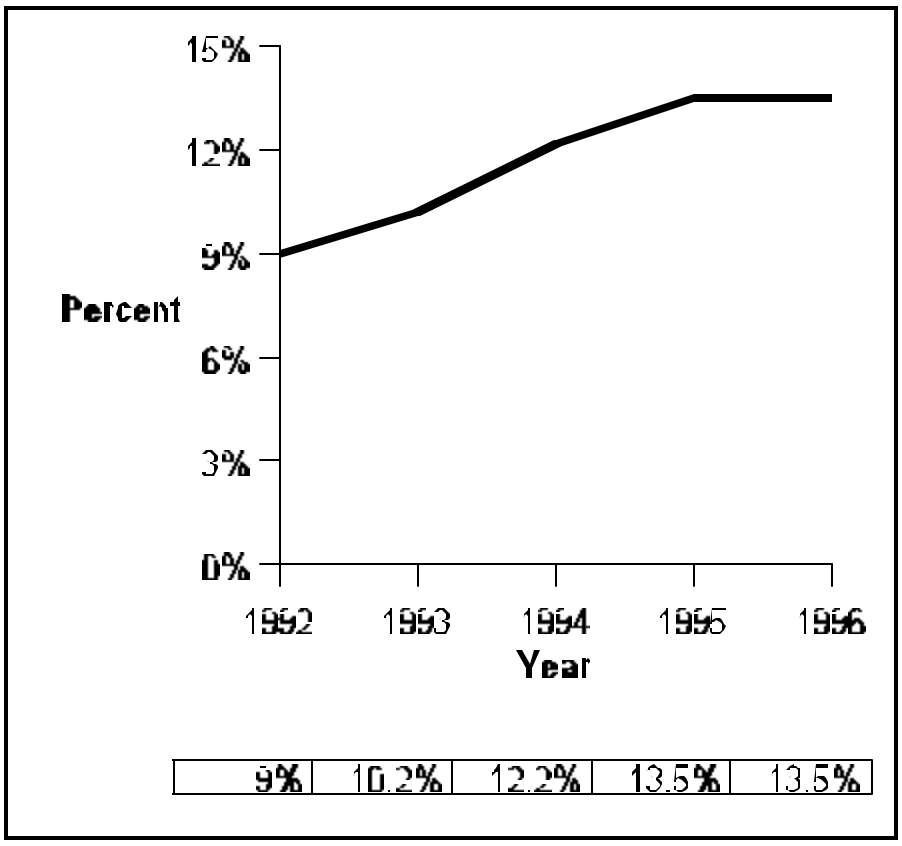

Figure I-B-1. 1992-1996 percent of BRFS respondents reporting having five or more drinks on one or more occasions during the previous month.

Results of the 1996 Arizona BRFS showed binge drinking behavior among 13.5% of Arizona adults. (Figure I-B-1) Even though this percentage is below the national average of 14.25%, it is unchanged from Arizona's 1995 rate. Persons most likely to engage in acute drinking activity are male, 18 to 44 years (79.3%) of age with some college education (34.6%) (Table I-B-1). Although binge drinkers are mainly White (84.5%) and non-Hispanic (78.0%), there is a greater prevalence of binge drinking among non-White (15.0%) and Hispanic (20.4%) persons

(see chart on page 2).

Current medical information on binge drinking focuses on prevention and treatment in high risk groups such as pregnant women, college students, and Native Americans. Positive behavior changes have been documented among binge drinkers receiving counseling visits from physicians in a 12 month follow-up procedure. In addition, results of a national survey among college students found " women who typically drink four drinks in a row were found to have roughly the same likelihood of experiencing drinking-related problems as men who typically drink five drinks in a row."[4] This information suggests a need for sex-specific binge drinking standards to avoid underestimates of negative health risks for women.

1996 Arizona BRFS Characteristics of reported binge drinkers	
GROUPS	PERCENTAGE
Sex	
Male	72.5
Female	27.5
Age	
18-24	19.1
25-34	34.3
35-44	25.9
45-54	10.3
55-64	5.5
65+	5.0
Education	
Never Attended School	13.5
Elementary	
Some High School	
High School Graduate or GED	26.4
Some College or Tech School	34.6
College Grad	25.5
Income	
< $10,000	4.3
$10-$14,999	3.8
$15-$19,999	10.1
$20-$24,999	4.5
$25-$34,999	23.5
$35-$49,999	18.4
$50-$74,999	12.3
$$75,000	9.8
Refused/Unknown	13.1
Race	
White	84.5
Non-White	15.5
Ethnicity	
Hispanic	21.9
Non-Hispanic	78.0

Table I-B-1. 1996 BRFS results: characteristics of persons reporting that they had five or more drinks on one or more occasions during the previous month.

References

1. Centers for Disease Control and Prevention. CDC Surveillance Summaries, December 27, 1996. MMWR 1996; 45 (No. SS-6).

2. Perrine M, Peck R, Fell J. Epidemiologic Perspectives on Drunk Driving. In Surgeon General's Workshop on Drunk Driving: Background Papers. Washington: U.S. Department of Health and Human Services. 1989.

3. Arizona Motor Vehicle Crash Facts 1996. Motor Vehicle Crash Statistics Unit, Arizona Department of Transportation.

4.Fleming MF, Barry KL, Manwell LB, Johnson K, London R. Brief Physician Advice for Problem Alcohol Drinkers. A Randomized Controlled Trial in Community-Based Primary Care Practices, JAMA 1997; 277 (13): 1039-45

C. CHRONIC DRINKING

Chronic alcohol abuse is associated with several illnesses including cirrhosis, anorexia, and osteoporosis. Recent studies have also shown excessive alcohol consumption to increase risk of cancers of the oropharynx, esophagus, liver, larynx and female breast.[1, 2] It is not surprising that health care costs are higher and prognosis of survival poorer among chronic alcohol drinkers who incur these diseases. [3 - 5]

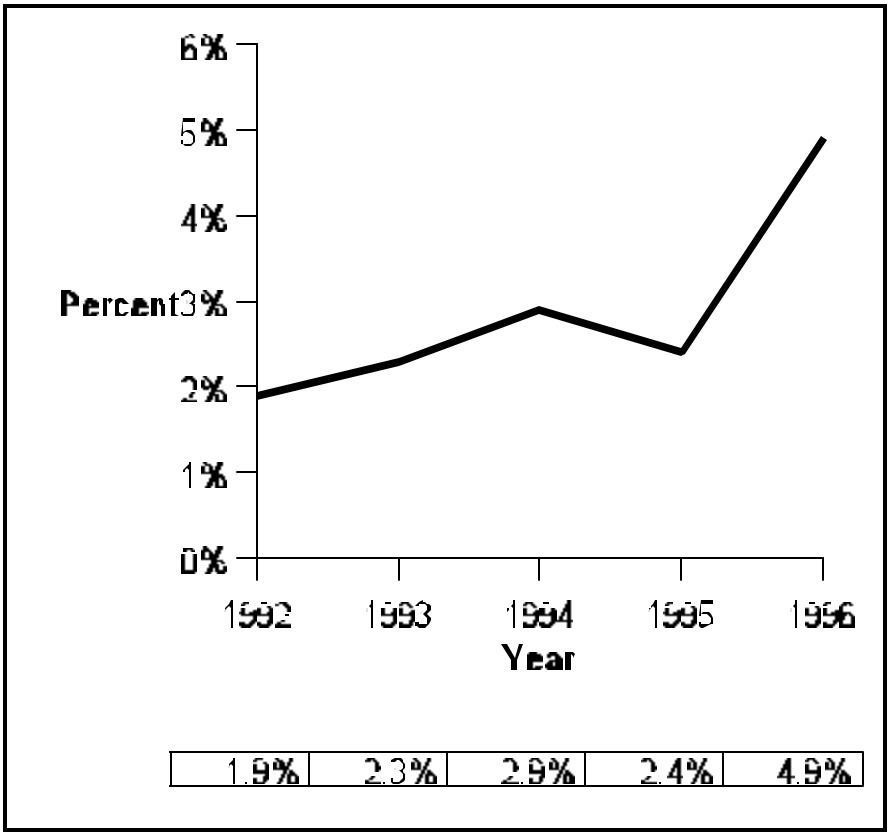

Figure I-C-1. 1992-1996 percent of BRFS respondents reporting having two or more drinks per day, i.e., 60 or more per month.

According to the 1996 Arizona BRFS, 4.9% of all respondents reported chronic drinking behavior (Figure I-C-1). This percentage is the highest recorded in Arizona this decade and exceeds the U.S. percentage 2.95% from the 1992 through 1993 U.S. BRFS.[6] Chronic alcohol abusers in Arizona are primarily male (79.8%) with a high school education (37.1%) (Table I-C-1). As with binge drinkers, most chronic drinkers in are White (76.3%) and non-Hispanic (76.3%), however, there is a higher prevalence of chronic drinking behavior among non-Whites (8.3%) and Hispanics (7.9%) (see chart on page 2).

Deaths due to chronic liver disease and cirrhosis are commonly used as an indicator of abusive alcohol consumption.[7] *Healthy People 2000* objective 4.2 lists the target age-adjusted mortality rate of cirrhosis deaths at 6 per 100,000 by the year 2000. Sub-population targets are listed for Black males at 12 per 100,000, American Indians/Alaska Natives at 10 per 100,000, and Hispanics at 10 per 100,000.[8] The Arizona age-adjusted mortality rates due to chronic liver disease and cirrhosis in 1995 for all persons was 11.1 per 100,000. Prevention efforts directed toward this increased rate should be developed to lower incidence of chronic alcohol abuse, especially among Arizona minority populations.

1996 Arizona BRFS Characteristics of reported chronic drinkers	
GROUPS	PERCENTAGE
Sex	
Male	79.8
Female	20.2
Age	
18-24	14.8
25-34	21.6
35-44	24.6
45-54	9.4
55-64	11.6
65+	18.0
Education	
Never Attended School	16.8
Elementary	
Some High School	
High School Graduate or GED	37.1
Some College or Tech School	31.7
College Grad	14.4
Income	
< $10,000	14.2
$10-$14,999	
$15-$19,999	15.7
$20-$24,999	
$25-$34,999	16.6
$35-$49,999	16.5
$50-$74,999	25.2
$$75,000	
Refused/Unknown	11.9
Race	
White	76.3
Non-White	23.7
Ethnicity	
Hispanic	23.3
Non-Hispanic	76.3
Unknown	0.4

Table I-C-1. 1996 BRFS results: characteristics of persons reporting that they had two or more drinks per day (60 or more drinks per month).

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2. Holman CD, English DR, Milne E, Winter MG. Meta-Analysis of Alcohol and All-Cause Mortality: A Validation of NHMRC Recommendations. Med J Aust, 1996; 164 (3): 141-5.

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5. Fuchs CS, Stampfer MJ, Colditz GA, et al. Alcohol Consumption and Mortality Among Women. N Engl J Med, 1995; 332 (19):1245 - 1250.

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7. National Institute on Alcohol Abuse and Alcoholism. County alcohol problem indicators 1979 - 85 (U.S. Alcohol Epidemiologic Data Reference Manual, vol. 3, 3d ed.) Washington: U.S. Department of Health and Human Services, 1991.

8. National Center for Health Statistics. Healthy People 2000 Review, 1995-96. Hyattsville, Maryland: Public Health Service. 1996.

D. DRINKING AND DRIVING

Along with numerous diseases and other alcohol-related problems the alcohol abuser incurs, motor vehicle incidents are among the most costly. NHTSA estimates that alcohol-related motor vehicle crashes resulted in 45 billion dollars in economic costs in 1994. Alcohol consumption is a factor in 47% of fatal motor vehicle crash costs, 29% of non-fatal injury crash costs, and 17% of property-damage-only crash costs.[1] Nevertheless, the number of deaths due to alcohol-related motor vehicle crashes have declined since 1985.[2]

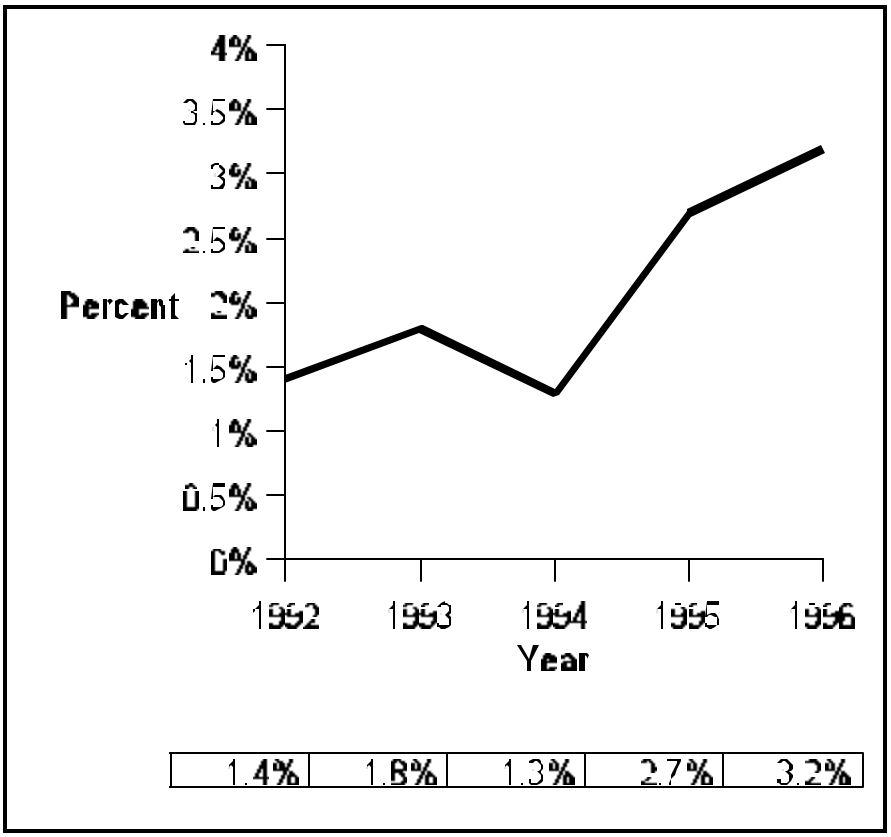

Figure I-D-1. 1992-1996 percent of BRFS respondents reporting that they had driven an automobile one or more times during the previous month after having too much to drink.

Analysis of the 1996 Arizona BRFS showed an increase in the percentage of respondents reporting drinking and driving behavior. The 1996 percentage of 3.2% is higher than the previous year's 2.7% and much higher than the 1994 percentage of 1.3% (Figure I-D-1). Persons who reported drinking and driving are primarily males, and 18 to 34 years of age (Table I-D-1). Analysis by education showed 64.0% of these persons have a college or technical school education. Their average income was $20,000 to $34,999 per year.

In Arizona in 1996, there were 7,748 alcohol related crashes. The economic loss due to these crashes total at more than 363 million dollars. Most of these incidents occurred on weekend nights and 82.6% of the time a male was operating the vehicle. Surprisingly, most drinking drivers were wearing a safety restraint while driving.[2]

Continued efforts to decrease drinking and driving have sparked research into possible factors which may contribute to this behavior. Examination of self-regulatory techniques, the positive

1996 Arizona BRFS Characteristics of reported drinking and driving	
GROUPS	PERCENTAGE
Sex	
Male	88.0
Female	12.0
Age	
18-24	36.6
25-34	28.9
35-44	23.4
45-54	11.2
55-64	
65+	
Education	
Never Attended School	15.4
Elementary	
Some High School	
High School Graduate or GED	19.6
Some College or Tech School	41.2
College Grad	23.8
Income	
< $10,000	16.1
$10-$14,999	
$15-$19,999	
$20-$24,999	33.6
$25-$34,999	
$35-$49,999	16.9
$50-$74,999	21.8
$$75,000	
Refused/Unknown	11.7
Race	
White	82.1
Non-White	17.9
Ethnicity	
Hispanic	27.5
Non-Hispanic	72.5

Table I-D-1. 1996 BRFS results: characteristics of persons reporting that they had driven an automobile one or more times during the previous month after having too much to drink.

effects of driving under the influence (DUI) news coverage and DUI law enforcement have been conducted to increase our knowledge and hopefully decrease the rate of this behavior .[3, 4]

References

1. Blincoe LJ. Economic Cost of Motor Vehicle Crashes, 1994. NHTSA Technical Report, 1997.

2. Arizona Motor Vehicle Crash Facts 1996. Motor Vehicle Crash Statistics Unit, Arizona Department of Transportation.

3. Brown SL. Prevalence and Effectiveness of Self-Regulatory Techniques Used to Avoid Drunk Driving. J Behav Med, 1997; 20 (1): 55-66.

4. Voas RB, Holder HD, Gruenewald PJ. The Effect of Drinking and Driving Interventions on Alcohol-Involved Traffic Crashes within a Comprehensive Community Trial. Addiction, 1997; 92 Suppl 2: S221 - 236.

E. NO HEALTH CARE COVERAGE

According to the 1996 Arizona BRFS, 16.9% of all respondents reported that they did not currently have health care coverage (Figure I-E-1). This percentage has increased somewhat since 1994. Most persons who do not have coverage earn $15,000 to $34,999 per year (Table I-E-1), however, the greatest percentage of persons with no coverage is among individuals earning less than $15,000 per year (see chart on page 2). Lack of health care coverage is slightly greater among males and exists primarily among persons 18 to 44 years of age. Of persons who reported that they had health care coverage but not medicare, 75.1% have coverage through their employer or someone else's employer.

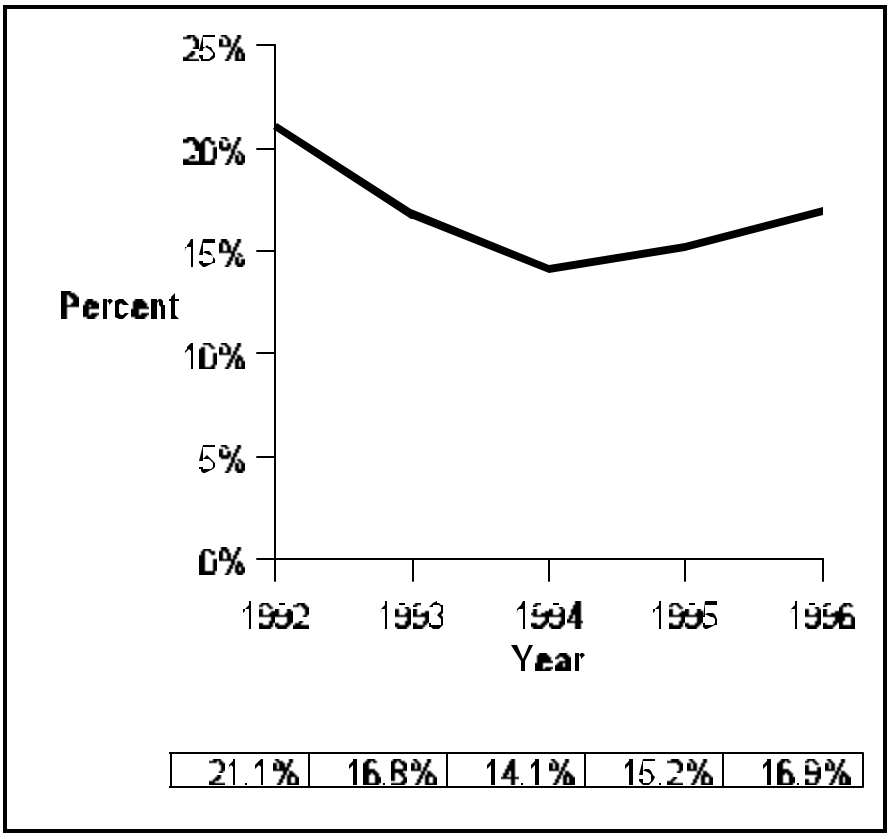

Figure I-E-1. 1992-1996 percent of BRFS respondents reporting they do not have health care coverage.

Of particular interest is the high percentage of Arizona Hispanics without health care coverage. Results from page 2 show 28.4% of Hispanics in this survey do not have coverage. Examination of these persons reveal that 46.6% of them responded that their annual income was $15,000 or greater. This information suggests that, though employed, perhaps many of these Hispanics have jobs in which health care coverage is not offered through their employer, a benefit which would be less expensive than health care coverage purchased independently.

Each year the direct financial responsibility for health care increases for the consumer.[1] Moreover, national survey results show that many Americans who have coverage do not understand the basic elements of health plans. There is an increased demand for more information about physicians available in the plans and the services that are covered.[2]

1996 Arizona BRFS Characteristics of persons with no health care coverage	
GROUPS	PERCENTAGE
Sex	
Male	53.7
Female	46.3
Age	
18-24	23.6
25-34	31.5
35-44	26.2
45-54	11.1
55-64	
65+	7.6
Education	
Never Attended School	
Elementary	9.0
Some High School	14.6
High School Graduate or GED	32.1
Some College or Tech School	30.9
College Grad	13.3
Income	
< $10,000	6.6
$10-$14,999	7.3
$15-$19,999	13.9
$20-$24,999	13.5
$25-$34,999	11.1
$35-$49,999	8.3
$50-$74,999	6.1
$$75,000	2.8
Refused/Unknown	30.4
Race	
White	72.5
Non-White	27.2
	0.3
Ethnicity	
Hispanic	24.5
Non-Hispanic	75.0

Table I-E-1. 1996 BRFS results: characteristics of persons reporting that they did not have health care coverage.

References

1. Bartlett DF, Sorelli B. Preparing for the coming consumer revolution in Health Care. J Health Care Finance, 1997; 23(4):33-39.

2. Isaacs SL. Consumer's Information Needs: Results of a National Survey. Health Aff (Milwood), 1996; 15(4): 31-41.

F. NO MAMMOGRAPHY

The key to reduction in breast cancer mortality is dependent upon successful treatments and early detection. Routine mammography will reduce breast cancer mortality by at least 30%.[1] Currently, the American Cancer Society recommends mammography in women ages 40 to 49, while the National Cancer Institute recommends that these women discuss mammography with her physician. The benefits of obtaining routine mammograms is the ability of this test to detect tumors smaller than would be detectable using self breast exam. Smaller tumors are more likely to be associated with an early stage of breast cancer and thereby respond to treatment better.

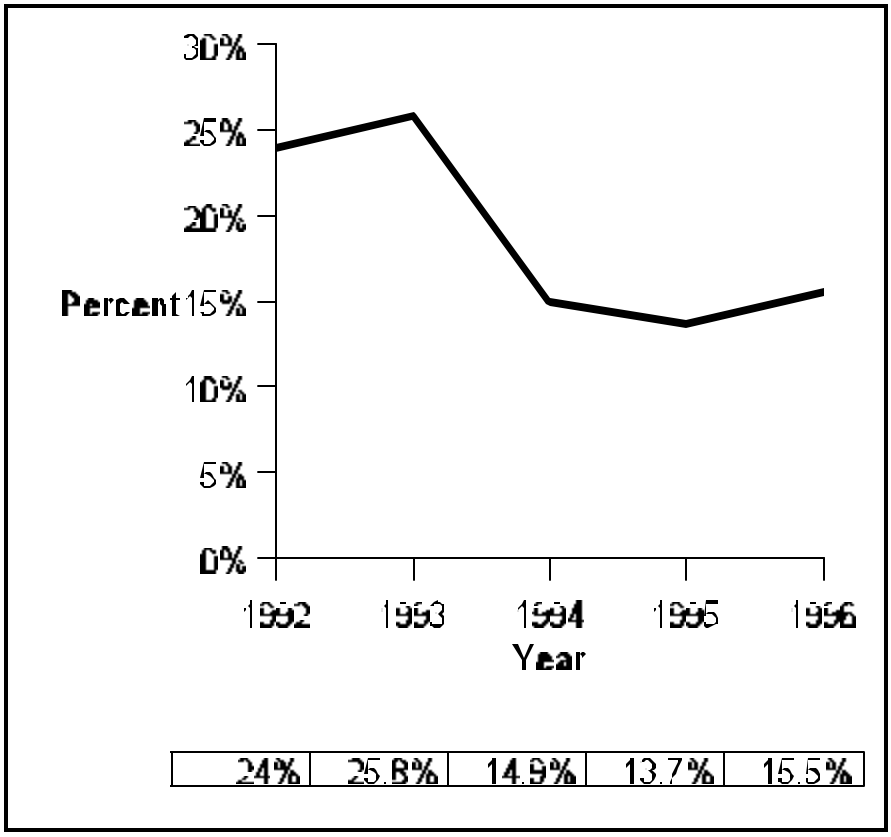

Figure I-F-1. 1992-1996 percent of BRFS respondents reporting they have never had a mammogram.

Analysis of the 1996 Arizona BRFS showed 15.5% of females 40 years of age or older responding that they had never had a mammogram. This percentage is increased somewhat from 1995, but is not as high as the 25.8% of respondents from 1993 (Figure I-F-1). National BRFS results from 1993 showed only 10.2% of women 40 years of age or older reported never having had a mammogram.[2] This is lower than any Arizona percentage listed in Figure I-F-1 . Although Table I-F-1 shows the greatest percentage of women responding that they have never had a mammogram are primarily 65 year of age or older (34%), women 40 to 44 years of age have the highest prevalence of reporting that they have never been tested (22.7%) (see chart on page 2).

Most breast cancer symptoms are discovered by women through self breast exam. Unfortunately, one-third of these women will wait at least 3 months before seeking treatment. Reasons for delayed medical care include interpretation of symptoms as non-threatening and economic limitations to accessing services.[3] Removal of these barriers is essential for successful breast cancer treatment.

1996 Arizona BRFS Characteristics of woman never having a mammogram	
GROUPS	PERCENTAGE
Sex	
Male	-
Female	100.0
Age	
18-24	-
25-34	-
35-44	23.3
45-54	30.3
55-64	12.4
65+	34.0
Education	
Never Attended School	
Elementary	18.8
Some High School	
High School Graduate or GED	29.3
Some College or Tech School	31.3
College Grad	20.7
Income	
< $10,000	
$10-$14,999	12.3
$15-$19,999	
$20-$24,999	11.5
$25-$34,999	9.6
$35-$49,999	16.6
$50-$74,999	
$$75,000	11.3
Refused/Unknown	38.7
Race	
White	87.5
Non-White	12.5
Ethnicity	
Hispanic	9.4
Non-Hispanic	90.6

Table I-F-1. 1996 BRFS results: characteristics of women 40 year of age or older reporting that they never had a mammogram.

References

1. Murphy GP, Lawrence W, Lenhard RE. American Cancer Society Textbook of Clinical Oncology, 2nd Edition. Altlanta, Georgia, 1995.

2. Centers for Disease Control and Prevention. CDC Surveillance Summaries, December 27, 1996. MMWR 1996; 45 (No. SS-6).

3. Facione NC, Dodd MJ, Holzemer W, Meleis AI. Helpseeking for Self-Discovered Breast Symptoms. Implications for Early Detection. Cancer Pract., 1997; 5(4): 220-227.

G. NO MAMMOGRAPHY AND/OR BREAST EXAM

According to the 1996 Arizona BRFS, 19.2% of female respondents 40 years of age or older reported never having a clinical breast exam and/or mammogram (Figure I-G-1). This percentage is increased, somewhat, from 1995, but is still much lower than the Arizona BRFS assessments made in 1992 and 1993.

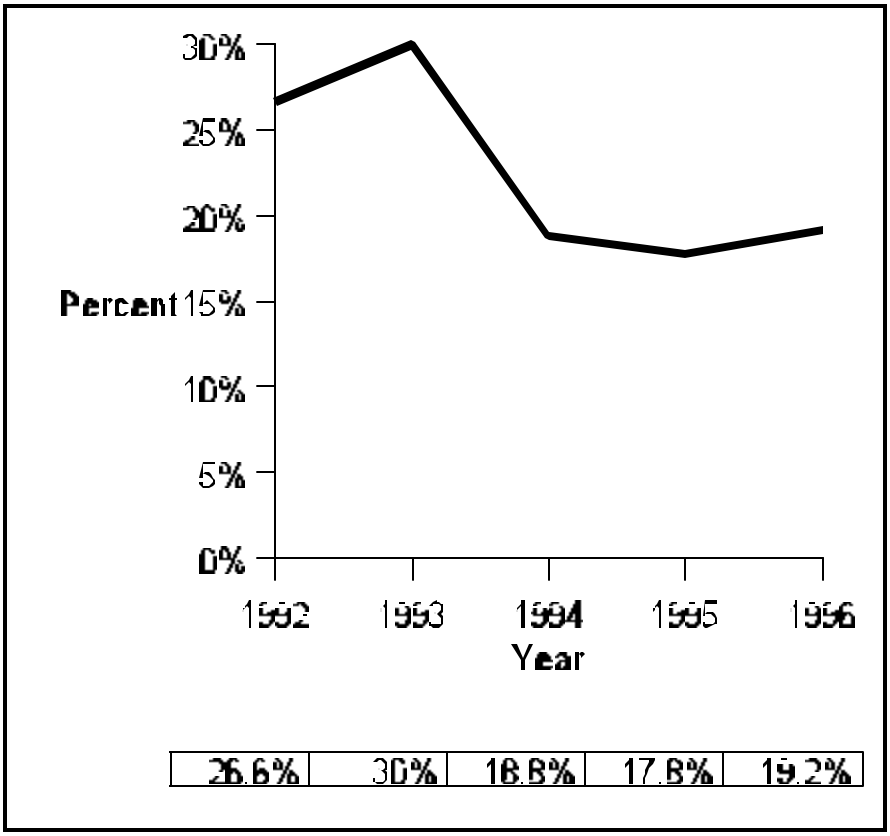

Figure I-G-1. 1992-1996 percent of BRFS respondents reporting they have never had a mammogram and/or clinical breast examination.

Of the women responding that they never had a clinical breast exam or mammogram, 38.2% are 65 years of age or older (Table I-G-2). Results also showed 34.0% of these women have some college or technical school education and most were White (89.1%) and non-Hispanic (88.6%).

Healthy People 2000 Objective 16.11 "Breast Exam and Mammogram" has recently been changed to include women 50 years of age and older. The target which included women 40 years of age and older has been dropped . The new

American Cancer Society Recommendations for Screening

AGE	EXAMINATION	FREQUENCY
20 - 39	Breast self-examination	Monthly
	Clinical examination	Every 3 years
40 - 49	Breast self-examination	Monthly
	Clinical examination	Yearly
	Mammography	Every 1-2 years
$ 50	Breast self-examination	Monthly
	Clinical examination	Yearly
	Mammography	Yearly

Table I-G-1. American Cancer Society Guidelines for breast cancer detection.

1996 Arizona BRFS Characteristics of women not having a mammogram and/or breast exam	
GROUPS	PERCENTAGE
Sex	
Male	-
Female	100.0
Age	
18-24	-
25-34	-
35-44	20.6
45-54	26.1
55-64	15.1
65+	38.2
Education	
Never Attended School	
Elementary	6.7
Some High School	11.5
High School Graduate or GED	29.3
Some College or Tech School	34.0
College Grad	18.6
Income	
< $10,000	4.4
$10-$14,999	8.1
$15-$19,999	5.0
$20-$24,999	7.6
$25-$34,999	10.2
$35-$49,999	16.0
$50-$74,999	
$$75,000	10.2
Refused/Unknown	38.5
Race	
White	89.1
Non-White	10.9
Ethnicity	
Hispanic	11.4
Non-Hispanic	88.6

Table I-G-2. 1996 BRFS results: characteristics of women 40 year of age or older reporting that they never had a mammogram and/or breast exam.

objective target is 60%, of these women 50 years of age or older, to be tested every 1 to 2 years.[1]

Finally, Table I-G-1 shows the current American Cancer Society recommendations for screening. These guidelines are the most widely used schedule for screening in the U.S. and the best way to detect early breast cancer.[2, 3]

References

1. National Center for Health Statistics. Healthy People 2000 Review, 1995-96. Hyattsville, Maryland: Public Health Service. 1996.

2. Dodd GD. American Cancer Society Guidelines on Screening for Breast Cancer: an Overview. CA Cancer J Clin, 1992; 42: 177-180.

3. Stomper PC, Gelman RS. Mammography in Symptom and Asymptomatic Patients. In: Henderson IC, ed. Hematology/Oncology Clinics of North America:Diagnosis and Therapy of Breast Cancer. Philadelphia, PA: WB Saunders Co.; 1989: 611-640.

H. OVERWEIGHT (BMI)

During the past ten years, increases in the prevalence of obesity have been documented. In the United States an estimated 33.4% of adults 20 years and older are considered obese.[1] The body mass index (BMI) is a relationship between weight and height and is used to determine obesity and assess health risk. BMI is calculated using the following formula: pounds(0.454) ÷ [inches(0.0254)]^2.[2]

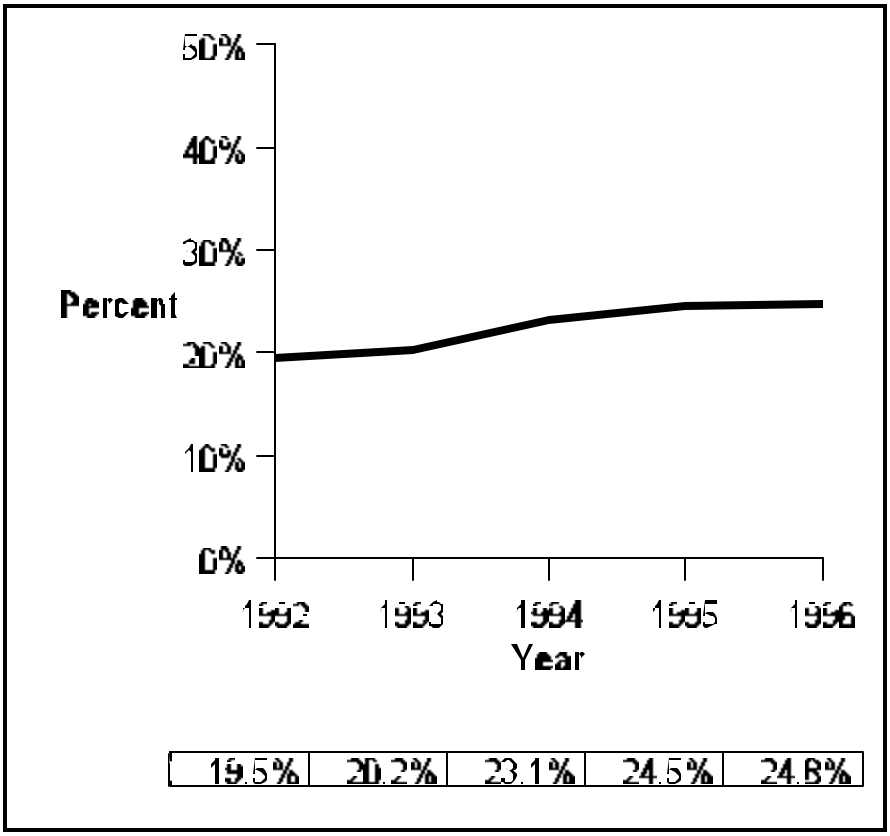

Figure I-H-1. 1992-1996 percent of BRFS respondents reporting weights which exceed BMI limits.

According to the 1996 BRFS, the physical dimensions of 24.8% of respondents exceeded the BMI standard for overweight (Figure I-H-1). This percentage is the highest reported in Arizona during this decade. Persons who are overweight are mostly: male (54.6%) between the ages 35 and 44 years of age (25.8%), with some college or technical school (32.9%).

Healthy People 2000 objective 1.2 lists the goal to reduce overweight to a prevalence of #20% among adults 20 years of age or older (defined as a BMI $27.8 for men and a BMI $27.3 for women) and #15% among adults 18 to 19 years of age (defined as a BMI $25.8 for men and a BMI $25.7 for women).[5] Several diseases are associated with obesity, and even modest weight losses can result in reduced risk. The health effects of weight loss, weight gain, and weight maintenance has received extensive review, with the following major findings: *Cardiovascular Disease* - The optimal BMI regarding this disease is 22.6 for men and 21.1 for women. At those levels, there appears to be 25% less heart disease and 35% fewer strokes or episodes of heart failure.[3] *Diabetes* - In both men and women, the highest prevalence of diabetes occurs at a BMI greater than 28.[4] Between 80% and 90% of people with Type II diabetes mellitus are obese.[3] *Hypertension* - Risk of hypertension increases with a BMI of greater than 22.

65+	16.2
Education	
Never Attended School	
Elementary	6.2
Some High School	11.4
High School Graduate or GED	29.1
Some College or Tech School	32.9
College Grad	20.4
Income	
< $10,000	2.7
$10-$14,999	6.2
$15-$19,999	8.1
$20-$24,999	11.7
$25-$34,999	9.5
$35-$49,999	16.2
$50-$74,999	12.2
$$75,000	6.6
Refused/Unknown	26.9
Race	
White	81.4
Non-White	18.6
Ethnicity	
Hispanic	17.5
Non-Hispanic	82.4

Table I-H-1. 1996 BRFS results: characteristics of persons with BMI $ 27.3 (females) or BMI $ 27.8 (males).

Hypertension is two times more common among obese persons.[3] *Osteoarthritis* - There is an increased incidence of osteoarthritis at a BMI of 25 or greater.[3] In men, a decrease of approximately four BMI units resulted in a 21.4% decrease in the rate of symptomatic osteoarthritis of the knee.[4] *Selected Cancers* - There is an increased risk of endometrial cancer in women with a BMI greater than 28. Similarly, there is an increased risk of breast cancer, especially after menopause,

in women with BMI greater than 26.[3]

References

1.Kucamarski RJ, Flegal KM, Campbell SM, Johnson CL. Increasing prevalence of overweight among US adults. The national Health and Nutrition Examination Surveys, 1960 to 1991. JAMA; 1994:205-211.

2. Arizona Behavioral Risk Factor Surveillance, Arizona Department of Health Services, Office of Chronic Disease Epidemiology; 1996.

3. Shape Up America, American Obesity Association. Guidance for Treatment of Adult Obesity. Bethesda: Shape Up America; 1996:1-95.

4. St. Jeor ST, Brownell KD, Atkinson RL. New Multidisciplinary Strategies in Obesity Management. Clark, New Jersey: Health Learning Systems; 1997.

5.National Center for Health Statistics. Healthy People 2000 Review, 1995-96. Hyattsville, Maryland: Public Health Service. 1996.

I. SAFETY BELT NON-USE

Nationwide 41,907 persons were killed in motor vehicle crashes in 1996. Nine hundred ninety five of these persons were killed in Arizona. Nevertheless, the fatal crash rate for the U.S. and Arizona continues to steadily decline.[1] It is well known that safety belt use has contributed greatly to the decrease in motor vehicle fatalities. [2] The Arizona Department of Transportation's 1996 report indicates 81.9% of all drivers involved in crashes that year were reportedly wearing safety belts.

Analysis of the 1996 Arizona BRFS showed 13.1% of all respondents reported that they "sometimes," "seldom," or "never" use safety belts. This is similar to the 1995 percentage of 12.7% (Figure I-I-1).

Table I-I-1 indicates that persons who do not routinely wear safety belts are male, and 18 to 44 years of age. Interestingly, middle-income persons earning $15,000 to $34,999 per years were more likely not to routinely wear a safety belt than persons with lowest or highest incomes.

Healthy People 2000 Objective 9.3 targets motor vehicle crash deaths at 1.5 per 100 million miles traveled by the year 2000.[3] Currently the Arizona fatality crash rate is 2.04 for 1996. This figure has not decreased significantly since the early 1990's. The current 1996 U.S. fatality crash rate is 1.7.[1] Efforts in Arizona to decrease the fatality crash to not only equal the U.S. rate but meet the *Healthy People 2000* objective 9.3 will require continued crash fatality prevention as well as crash intervention efforts such as safety belts, air

bags and infant car seats.

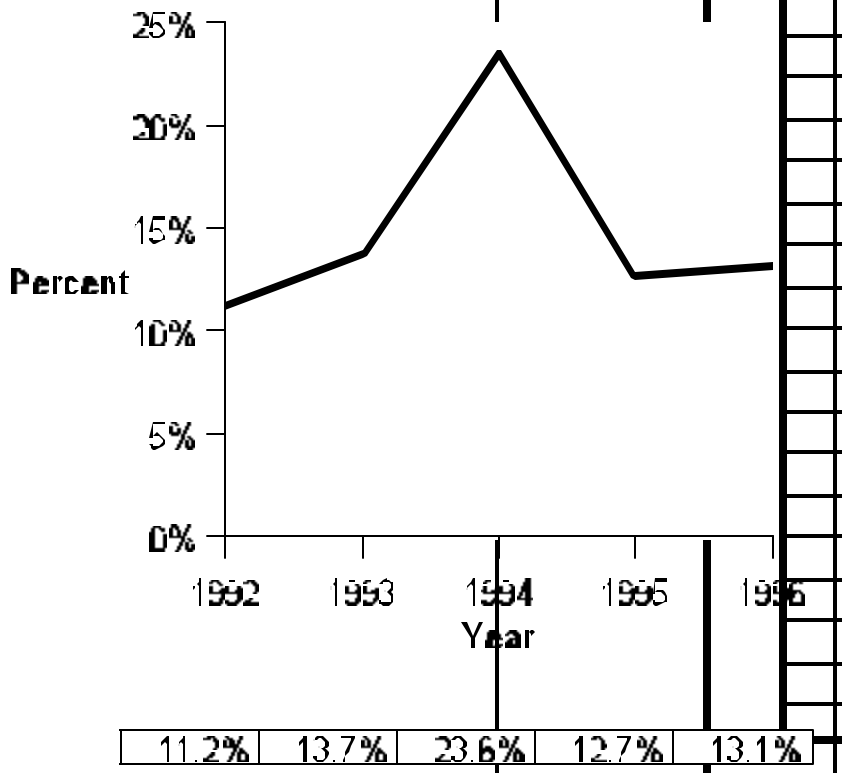

Figure I-I-1. 1992-1996 percent of BRFS respondents reporting they "sometimes", "seldom" or "never" use safety belts.

1996 Arizona BRFS Characteristics of safety belt use	
GROUPS	PERCENTAGE
Sex	
Male	62.2
Female	37.8
Age	
18-24	18.3
25-34	22.7
35-44	30.5
45-54	10.9
55-64	7.7
65+	9.8
Education	
Never Attended School	
Elementary	
Some High School	
High School Graduate or GED	
Some College or Tech School	
College Grad	
Refused	
Income	
< $10,000	
$10-$14,999	
$15-$19,999	
$20-$24,999	
$25-$34,999	
$35-$49,999	
$50-$74,999	
$$75,000	
Refused/Unknown	
Race	
White	
Non-White	
Unknown/Refused	
Ethnicity	
Hispanic	
Non-Hispanic	

Table I-I-1. 1996 BRFS results: characteristics of persons reporting they "sometimes", "seldom", or "never" use safety belts.

References

1. Arizona Motor Vehicle Crash Facts 1996. Motor Vehicle Crash Statistics Unit, Arizona Department of Transportation.

2. National Highway Traffic Safety Administration. 1989 Estimates of Lives Saved. Washington: Department of

Transportation. 1990.

3. National Center for Health Statistics. Healthy People 2000 Review, 1995-96. Hyattsville, Maryland: Public Health Service. 1996.

J. NO LEISURE-TIME ACTIVITY

Physical activity and exercise are critical elements in the promotion of health in adults. Age-appropriate exercise habits reduce the risk of hypertension, diabetes mellitus, colon cancer, osteoporosis, and immune system dysfunction. [1, 2] Regular exercise can also contribute to the functional independence of the elderly and improves the quality of life for people of all ages.[3]

Analysis of the 1996 Arizona BRFS shows 33.3% of all respondents reported no leisure-time physical activity within the past month (Figure I-J-1). This has changed only slightly from 1995. Percentages from 1995 and 1996 are still much higher than those from 1992 through 1994.

More women (55.1%) than men (44.9%) reported no leisure-time activity. The highest percentages of inactive persons were 35 to 44 years of age (26.3%) and 65 years or older (21.0%) (Table I-J-1). Although inactivity was greatest among low income and less educated individuals (see chart on page 2), Table I-J-1 shows most inactive persons having a high school education, some college or technical school (62.8%)and earning annual incomes of $20,000 to $49,999 (41.2%).

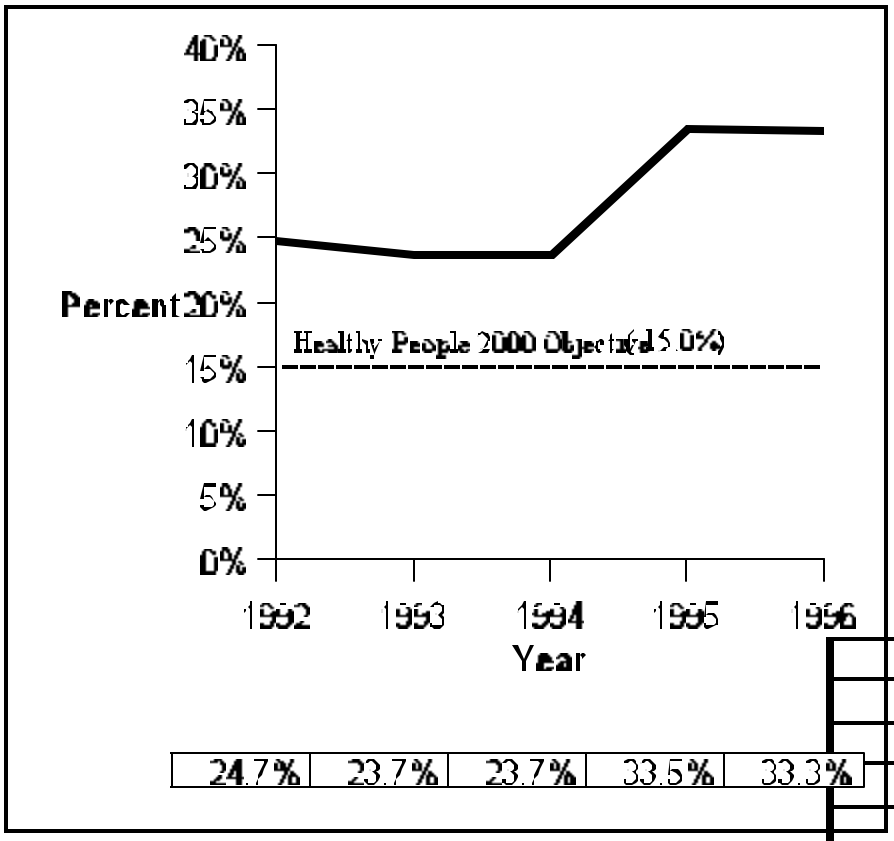

Figure I-J-1. 1992-1996 percent of BRFS respondents reporting that they did not participate in physical activity in the past month along with the *Healthy People 2000* Objective 1.5.

Finally, *Healthy People 2000* objective 1.5 sets a target for no leisure-time activity at no greater than 15% for adults of all ages.[4] With the apparent rise in the percentage of inactivity in Arizona recently, special efforts toward exercise and physical activity promotion will need to be implemented in order to reach the 15% target by the year 2000.

1996 Arizona BRFS Characteristics of persons with no leisure-time activity	
GROUPS	PERCENTAGE
Sex	
Male	44.9
Female	55.1
Age	
18-24	10.0
25-34	
35-44	
45-54	
55-64	
65+	
Education	
Never Attended School	
Elementary	
Some High School	
High School Graduate or GED	
Some College or Tech School	
College Grad	
Refused	
Income	
< $10,000	
$10-$14,999	

$15-$19,999	8.5
$20-$24,999	10.7
$25-$34,999	16.1
$35-$49,999	14.4
$50-$74,999	6.5
$$75,000	3.1
Refused/Unknown	31.9
Race	
White	86.4
Non-White	13.4
Unknown/Refused	0.1
Ethnicity	
Hispanic	17.9
Non-Hispanic	82.0

Table I-J-1. 1996 BRFS results:characteristics of persons reporting that they did not participate in physical activity during the past month.

References

1. Siscovick DS, et al. Disease Specific Benefits and Risks of Physical Activities and Exercise. Public Health Reports, 1985; 100(2): 180-188.

2. Venjatraman JT, Fernandes G. Exercise, Immunity an Aging. Aging, 1997; 9(1-2): 42-56.

3.Katz S, Branch LG, Branson MH, et al. Active Life Expectancy. N Engl J Med, 1983; 309: 1218-1224.

4. National Center for Health Statistics. Healthy People 2000 Review, 1995-96. Hyattsville, Maryland: Public Health Service. 1996.

K. CURRENT SMOKING

Tobacco use is responsible for one out of every five deaths in the U.S..[1, 2] Cigarette smoking is a major contributor to diseases such as lung cancer, oral cancer and heart disease. Smoking is also found to be associated with depression, anxiety disorders, and SIDS. [3 - 5] Approximately 50% of all regular smokers die from a smoking-related illness. [6]

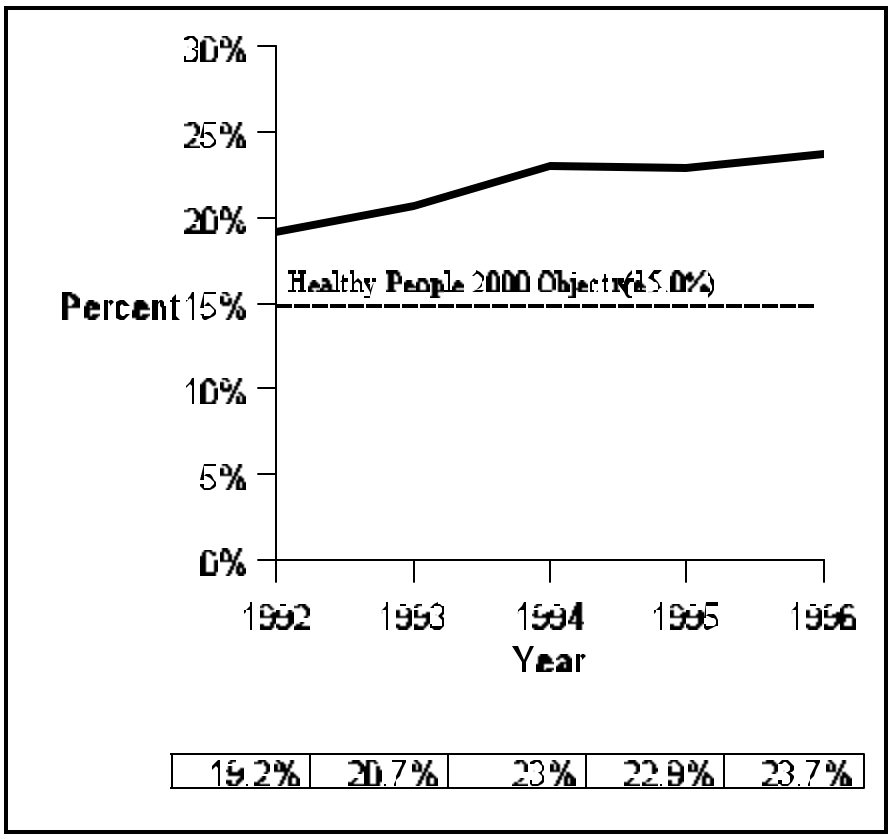

Figure I-K-1. 1992-1996 percent of BRFS respondents reported that they were current smokers along with the *Healthy People 2000* Objective 3.4.

According to the 1996 Arizona BRFS, 23.7% of those surveyed reported that they are currently smokers. This percentage has changed only slightly from 1995 (22.9%) (Figure I-K-1). Smokers were found to be primarily male between the ages of 25 and 44 years old (54.0%) (Table I-K-1). The percentage within demographic groups, presented in the chart on page 3, shows that annual income is not a strong factor associated with smoking behavior in adults. The percentage of low income persons choosing to be smokers (26.8-31.1%) is not very different from that of middle income persons who choose to be smokers (21.3-33.1%).

The *Healthy People 2000* objective 3.4 sets a target to reduce cigarette smoking to no more than 15% among persons 18 years of age or older.[7] Current Arizona trends suggest an increasing rate of smoking among adults and not a declining rate. Continued efforts to prevent initial smoking behavior in adolescents as well as efforts to promote smoking cessation in current smokers using techniques that have documented effectiveness may decrease the rate of Arizona smokers to meet the *Healthy People 2000* objective 3.4.

1996 Arizona BRFS Characteristics of current smokers	
GROUPS	PERCENTAGE
Sex	
Male	55.6
Female	44.4
Age	
18-24	11.1
25-34	24.9
35-44	29.1
45-54	16.7
55-64	10.4
65+	7.8
Education	
Never Attended School	
Elementary	5.6
Some High School	10.8
High School Graduate or GED	31.8
Some College or Tech School	29.0
College Grad	22.6
Refused	0.3
Income	
< $10,000	4.4
$10-$14,999	3.8
$15-$19,999	11.0
$20-$24,999	9.5
$25-$34,999	16.1
$35-$49,999	13.6
$50-$74,999	13.2
$$75,000	3.5
Refused/Unknown	24.9
Race	
White	84.7
Non-White	15.3
Ethnicity	
Hispanic	17.2
Non-Hispanic	82.8

Table I-K-1. 1996 BRFS results:characteristics of persons reporting that they are current smokers and have smoked at least 100 cigarettes in their life.

References

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L. FRUIT/VEGETABLE CONSUMPTION

It has been known for many years that diet plays a large role in the quality of long-term health. For adults who do not drink excessively or smoke, diet is the most significant controllable risk factor that determines their health status.[1] On the average, 10% to 70% of all cancer deaths can be attributed to poor diet habits.[2]

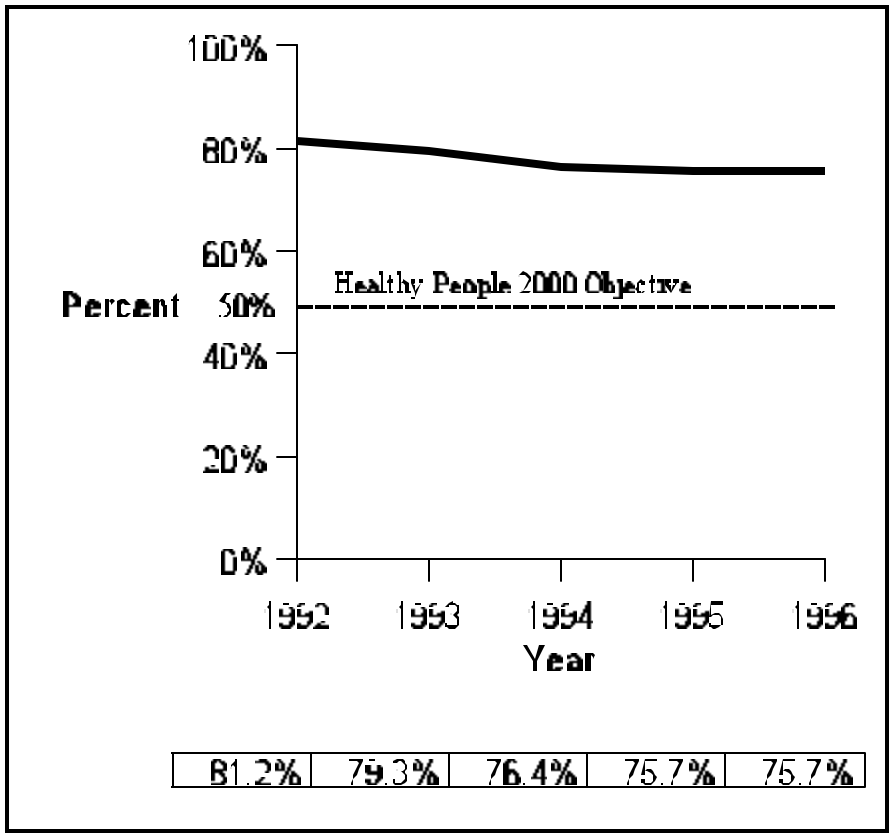

Figure I-L-1. 1992-1996 percent of BRFS respondents reporting that they consume less than 5 servings of fruits/vegetables per day along with the *Healthy People 2000* Objective 2.6.

One of the most important diet habits to follow is consumption of at least 5 servings of fruits/vegetables per day. Analysis of the 1996 Arizona BRFS shows that 75.7% of respondents reported that they consume less than 5 servings of fruits/vegetables per day (Figure I-L-1). This percentage has not changed since 1995. Persons who stated that they consume less than 5 servings of fruits/vegetables per day are primarily younger, 18 to 54 years of age, (74.3%) and have a high school education, some college or technical school (62.1%) (Table I-L-1).

Healthy People 2000 objective 2.6 has set a target to increase to at least 50% the proportion of persons consuming at least 5 fruits/vegetables per day.[3] Since the current proportion of Arizona residents who have achieved objective 2.6 is 24.3% , at least the difference of an additional 25.7% of the population with poor diet habits still needs to be consuming at least 5 fruits/vegetables per day in order to obtain this objective. The rate of decline from 81.2% in 1992 to 75.7% in 1996 suggests a more effective approach is necessary to promote the benefits of consuming the proper quantity of fruits and vegetables each day if the *Healthy People 2000* objective 2.6 is to be met.

1996 Arizona BRFS Characteristics of persons not consuming at least 5 servings of fruits/vegetables per day	
GROUPS	PERCENTAGE
Sex	
Male	51.2
Female	48.8
Age	
18-24	13.6
25-34	22.1
35-44	22.6
45-54	16.0
55-64	10.0
65+	15.8
Education	
Never Attended School	
Elementary	4.7
Some High School	7.8
High School Graduate or GED	28.3
Some College or Tech School	33.8
College Grad	25.2
Refused	0.3
Income	
< $10,000	3.3
$10-$14,999	3.3
$15-$19,999	7.9
$20-$24,999	8.4
$25-$34,999	12.6
$35-$49,999	15.2
$50-$74,999	12.7
$$75,000	6.1
Refused/Unknown	30.5
Race	
White	86.3
Non-White	13.5
Ethnicity	
Hispanic	14.7
Non-Hispanic	85.1

Table I-L-1. 1996 BRFS survey results: characteristics of persons reporting that they do not consume at least 5 servings of fruits/ vegetables per day.

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II
MODULE SURVEY RESULTS: ANALYSIS OF HIGH RISK GROUPS

A. HIV/AIDS

Human Immunodeficiency Virus or HIV is the virus that causes Acquired Immune Deficiency Syndrome, AIDS. AIDS is a disease that weakens the body's immune system, making a person susceptible to life-threatening opportunistic infections. HIV is now the second leading cause of death among young adults (25-44) in the United States.[1] As of July 1997, 9,128 cases of HIV infection have been reported in Arizona.

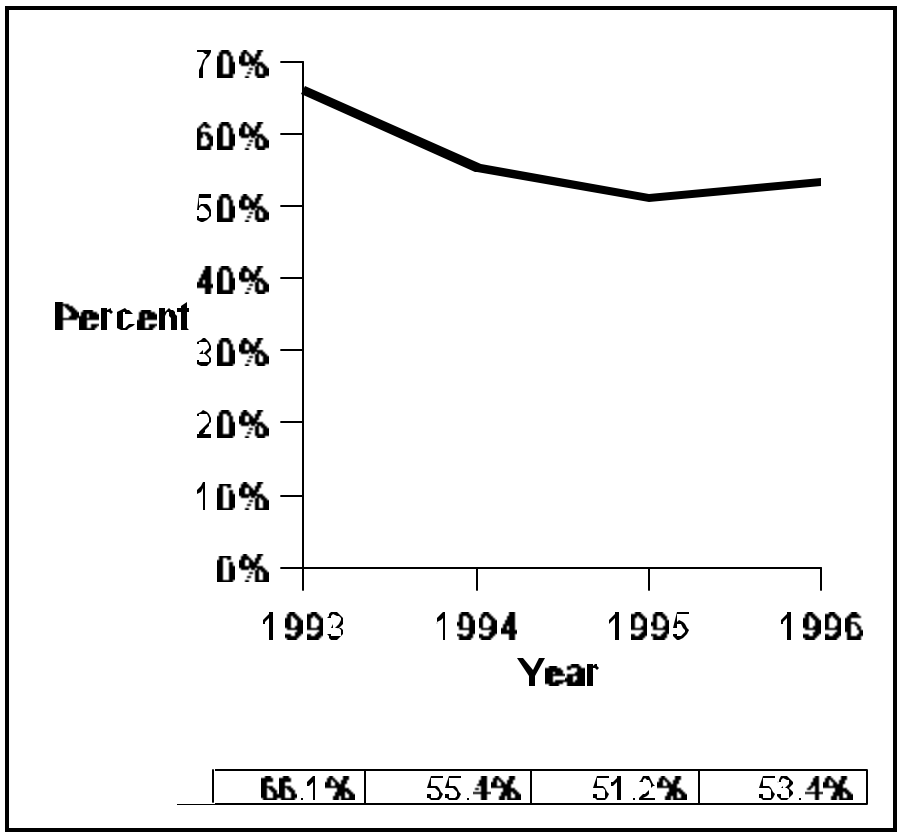

Figure II-A-1. 1993-1996 percent of BRFS respondents age 18 to 64 years of age reporting that they have not been tested for HIV.

It is vital for people infected with HIV disease to obtain early medical care to slow the disease progression, and improve their length and quality of life. It is estimated that more than half of the people infected with HIV do not know they are infected.[2]

Questions regarding HIV/AIDS were asked only of Arizona residents 18 to 64 years of age. Findings from the 1996 BRFS show that over half (53.4%) of Arizonans surveyed have not been tested for HIV (Figure II-A-1). When asked: 'What are your chances of getting infected with HIV, the disease that causes AIDS ?,' only 3.3% said high, while 67.9% reported no chance. No significant difference in perceived chance of HIV infection was identified between those who had tested for HIV and those who have not.

The 1996 BRFS also asked some questions assessing changes in sexual behavior due to what they knew about HIV. An overwhelming majority (90.4%) reported that they are now more careful in selecting sexual partners. When asked if their knowledge about HIV has caused them to change their sexual behavior in the last 12 months, only 11.5% responded 'yes.' Persons who had tested for HIV were almost twice as likely to say 'yes' to changes in sexual behavior when compared with non-tested respondents.

1996 Arizona BRFS Characteristics of persons not tested for HIV	
GROUPS	PERCENTAGE
Sex	
Male	48.8
Female	51.2
Age	
18-24	14.4
25-34	20.6
35-44	23.8
45-54	24.5
55-64	16.8
65+	-
Education	
Never Attended School	5.7
Elementary	
Some High School	7.3
High School Graduate or GED	28.3
Some College or Tech School	34.5
College Grad	24.1
Income	
< $10,000	3.5
$10-$14,999	3.3
$15-$19,999	6.8
$20-$24,999	7.8
$25-$34,999	12.4
$35-$49,999	15.3
$50-$74,999	14.9
$$75,000	6.9
Refused/Unknown	29.1
Race	
White	82.1
Non-White	17.8
Ethnicity	
Hispanic	17.3
Non-Hispanic	82.7

Table II-A-1. 1996 BRFS survey results: characteristics of persons 18 - 64 years of age reporting that they have not been tested for HIV.

Table II-A-1. describes persons who have never tested for HIV. Of those not tested, slightly over half (51.2%) are female. The majority of these respondents are between the ages of 25 and 54 years old (68.9%), and 86.9% of them are at least high school graduates. Persons who have not tested for HIV are predominately White (82.1%) and non Hispanic (82.7%). The median income group for these people was $25,000-$34,999.

Who should test for HIV? If a person has engaged in behavior that can transmit HIV, it is important to consider testing. The following are known risk factors for HIV infection. 1. Sharing needles or syringes to inject drugs or steroids; 2. If you have ever had a sexually transmitted disease; 3. Received a blood transfusion or clotting factor between 1978 and 1985; 4. If you have had unprotected sex with someone and not known their HIV status.[3]

References

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3. Facts about HIV/AIDS. ADHS HIV/AIDS brochure. 1997.

B. ARTHRITIS

One of the most prevalent chronic diseases in the U.S. is arthritis.[1] Arthritis can be degenerative and is accompanied by joint pain and inflammation.[2] Estimates based on the National Health Survey indicate 444 out of every 1000 persons who are 65 years of age or older have arthritis.[3] Figure II-B-1 illustrates how common arthritis is in older persons as compared with persons under 65 years of age. Currently, it is the most prevalent chronic condition among women. Arthritis has such disabling effects that persons with this disease are unable to participate in regular activity. In addition, the economic and social impact is enormous.[1]

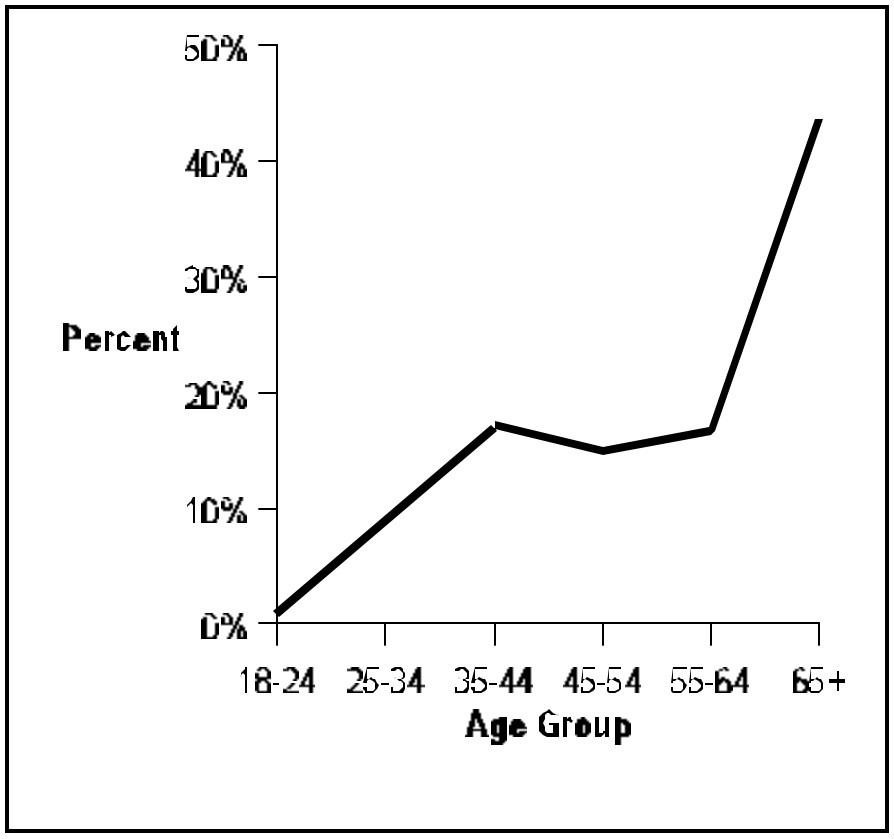

Figure II-B-1. 1996 percent of BRFS respondents reporting that they were told they had arthritis by age group.

Analysis of the 1996 Arizona BRFS indicates that persons with arthritis are primarily females (60.4%), 65 years of age and older (43.6%), white (93.4%), and non-Hispanic (92.0%) (Table II-B-1). Among persons 65 years of age or older 45.4% of respondents reported that they were told they had arthritis (see chart on page 3).

Further analysis of persons with arthritis indicated that 34.6% were told they had osteoarthritis or degenerative arthritis, 13.3% had rheumatoid arthritis, and 10.2% reported that they had rheumatism. The remaining 41.9% of persons either had other types of arthritis or were unsure which type of arthritis they had. When all persons with arthritis were asked if they were receiving treatment for their arthritis, only 35.4% responded that they were.

In this survey 45.4% of respondents 65 years of age or older reported they had arthritis. Another study has shown the prevalence of this disease in this age group to be higher than indicated here.[2]

1996 Arizona BRFS Characteristics of persons with arthritis	
GROUPS	PERCENTAGE
Sex	
Male	39.6
Female	60.4
Age	
18-24	
25-34	7.7
35-44	17.1
45-54	15.0
55-64	16.6
65+	43.6
Education	
Never Attended School	
Elementary	3.9
Some High School	9.2
High School Graduate or GED	27.2
Some College or Tech School	35.3
College Grad	24.3
Income	
< $10,000	1.8
$10-$14,999	4.4
$15-$19,999	7.5
$20-$24,999	6.4
$25-$34,999	16.4
$35-$49,999	15.0
$50-$74,999	8.2
$$75,000	8.4
Refused/Unknown	31.8
Race	
White	93.4
Non-White	6.5
Ethnicity	
Hispanic	7.9
Non-Hispanic	92.0

Table II-B-1. 1996 BRFS survey results: characteristics of persons told by their doctor that they have arthritis.

Strategies which may prove to be effective in preventing this disease include weight reduction, age-appropriate exercise, reduction of sports or occupational - related joint injury, and established educational programs.[1] With the increasing percentage of older persons in the population, arthritis stands to be a significant healthcare problem. Promoting these prevention strategies may reduce the impact of arthritis.

References

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C. NO DENTAL CARE

Although oral health diseases, such as tooth decay and periodontal diseases are common health problems in the U.S., 30.5% of respondents from the 1996 Arizona BRFS reported that they have not seen a dentist within the last 12 months. Failure to see a dentist was somewhat more common among males (34.6%) than females (26.4%) (see chart on page 3). Persons with an annual income of <$10,000 (53.2%) and those with

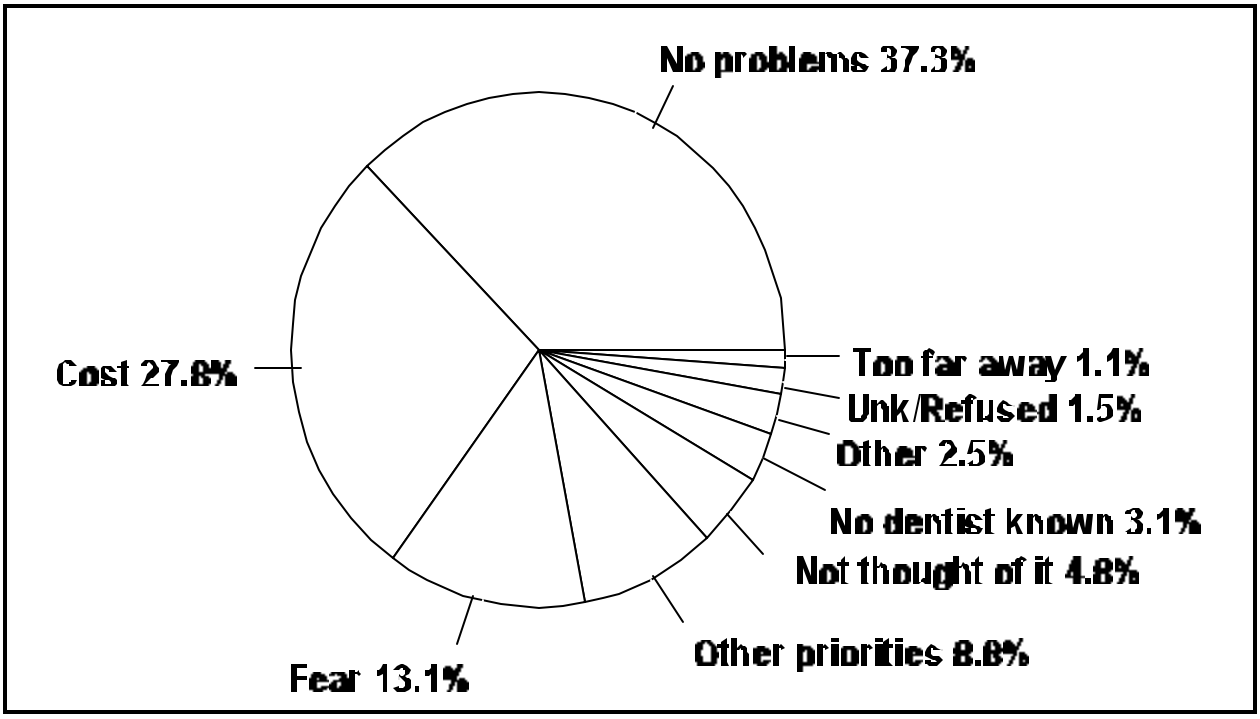

Figure II-C-1. 1996 Arizona BRFS Survey: Reasons why persons have not visited the dentist in the last year.

no more than an elementary school education (63.1%) had the highest prevalence of irregular dental visits. In contrast, low income and under educated individuals represented the smallest percentages among persons who have not visited a dentist in the last 12 months (Table II-C-1).

Among persons who have not seen a dentist within the last 12 months, the reason most often given was their perception that they had no dental problems (37.3%). Other frequent responses included cost (27.8%) and fear (13.1%) (Figure 1). When asked how many teeth they had had removed because of tooth decay or gum disease, 42.9% of these persons responded "5 or fewer" as opposed to 48.9% of persons who visited their dentist in the last 12 months and who responded "5 or fewer." The current guidelines for periodontal health maintenance are toothbrushing, flossing and periodic dental checkups. Studies have shown that persons who have regular dental visits have considerably less plaque, gingivitis, calculus, and accumulated oral neglect. [1, 2]

65+	18.9
Education	
Never Attended School	
Elementary	9.8
Some High School	12.8
High School Graduate or GED	31.8
Some College or Tech School	29.9
College Grad	16.3
Income	
< $10,000	5.9
$10-$14,999	3.3
$15-$19,999	9.0
$20-$24,999	12.2
$25-$34,999	13.3
$35-$49,999	12.1
$50-$74,999	9.9
$$75,000	2.4
Refused/Unknown	31.9
Race	
White	81.3
Non-White	18.5
Unknown	0.2
Ethnicity	
Hispanic	15.4
Non-Hispanic	84.6

Table II-C-1. 1996 BRFS survey results: characteristics of persons reporting that they received no dental care in the past 12 months.

Removing the barriers such as cost for dental services, fear and perceptions of no dental problems can help increase the number of persons that have annual dental exams.

References

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D. NO INFLUENZA VACCINATION

Influenza is a significant cause of morbidity. Elderly persons with chronic diseases are at high risk for influenza morbidity and mortality.[1] There are 3 types of influenza viruses; A, B and C. Type A viruses are responsible for most influenza epidemics. Since treatment of influenza can only minimize its symptoms, epidemics are most preventable through vaccination against current strains of disease.[2]

As part of the Arizona 1996 BRFS, respondents were asked if they had received an influenza vaccination within the last 12 months. Sixty four percent of all persons reported that they have not received an influenza vaccination within the last 12 months. The percentage of individuals within each age group, responding negatively to this question, is shown in Figure II-D-1. As age increased so did the rate of influenza vaccination. Among persons not receiving an influenza vaccination in the last 12 months, 52.6% were between the age of 25 and 44, 59.3% had a college or technical school education, and 42.5% reported an annual income of $25,000 to $74,999 (Table II-D-1).

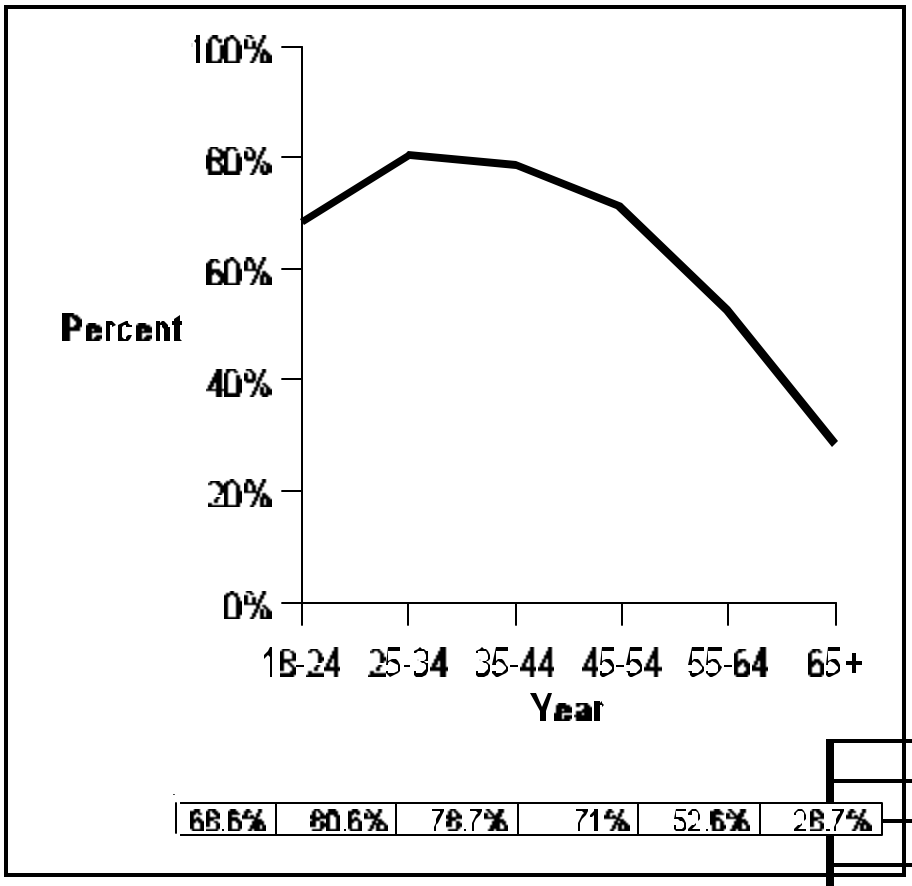

Figure II-D-1. 1996 percent of BRFS respondents from each age group reporting they have not had a influenza vaccination in the last 12 months.

Objective 20.11 in *Healthy People 2000* targets influenza vaccinations at a minimum of 60% in persons 65 years of age or older. The reported percentage of persons 65 years or older in Arizona that received an influenza vaccination in the last 12 months was 70.6%. This is 10.6% above the objective 20.11.

Since new strains of influenza periodically emerge, annual vaccinations are necessary to provide

1996 Arizona BRFS Characteristics of persons not receiving an influenza vaccination	
GROUPS	PERCENTAGE
Sex	
Male	48.2
Female	51.8
Age	
18-24	12.9
25-34	26.8
35-44	
45-54	
55-64	
65+	
Education	
Never Attended School	
Elementary	
Some High School	
High School Graduate or GED	
Some College or Tech School	
College Grad	
Income	
< $10,000	
$10-$14,999	
$15-$19,999	

$20-$24,999	10.0
$25-$34,999	13.6
$35-$49,999	16.1
$50-$74,999	12.8
$$75,000	7.1
Refused/Unknown	25.2
Race	
White	83.9
Non-White	16.0
Ethnicity	
Hispanic	17.3
Non-Hispanic	82.7

Table II-D-1. 1996 BRFS results: characteristics of persons reporting that they received no influenza vaccination in the past 12 months.

constant protection against infection. Vaccination against influenza is recommended as a part of routine health care for persons age 65 and older, and younger persons at risk of medical complications if they should contact influenza. Health care professionals should continue to inform their high risk populations, toward the end of each year, to be vaccinated against current influenza strains.

References

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2. Benenson AS (ed). Control of Communicable Diseases in Man. American Public Health Association. Washington D.C., 1990.

E. INJURY CONTROL

Intentional and unintentional injuries are among the leading causes of death nationwide and in Arizona.[1] Injuries sustained due to motor vehicle crashes, violence, occupational hazards, poisonings and many other causes fuel the high mortality rate which can be a consequence of these incidents.[2] Among the most preventable of these are bicycle-related head injuries and burn-related injuries in the home.

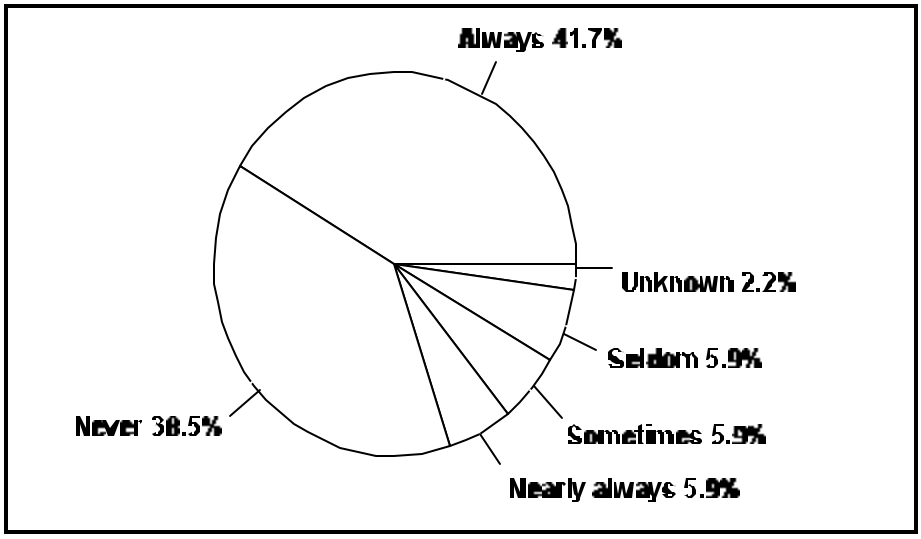

Figure II-E-1. 1996 Arizona BRFS : How often the oldest child has worn a bicycle helmet out of all oldest children who ride a bicycle.

According to the 1996 Arizona BRFS, less than half (41.7%) of all oldest children who ride a bicycle always where a bicycle helmet (Figure II-E-1). Of those reporting that their oldest child never wears a helmet while riding a bicycle, 54.3% earn more than $25,000 per year, 49.6% have some college education or are a college graduate, 78.3% are White and 69.0% are non-Hispanic.

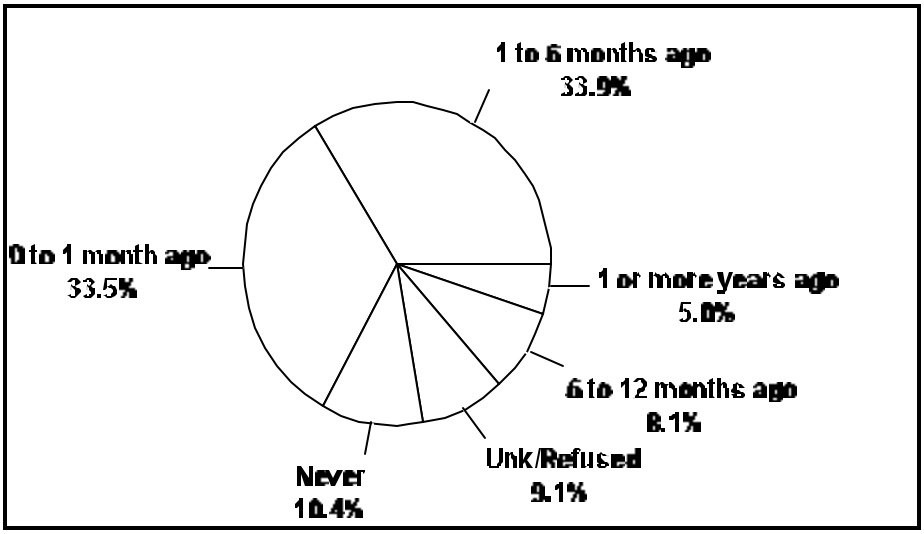

Figure II-E-2.. 1996 Arizona BRFS: Last time was that all the smoke detectors in the respondent's house were tested.

Respondents were also surveyed on how often they test all the smoke detectors in their house. Surprisingly, 67.4% responded that all smoke detectors in their house were tested 0 to 6 months ago (Figure II-E-2). Persons who responded that they never test all their smoke detectors were primarily male (62.6%), have some college education or are a college graduate (62.3%), 73.3% are White, and 76.2% are non-Hispanic.

Persons in homes without smoke detectors are two times as likely to die from burn-related injuries as those in homes with smoke detectors.[3] Of all respondents surveyed 5.5% said they had no smoke detectors in their home. This percentage is lower than the 8.0% cited from the Pennsylvania BRFS results.[4]

The information presented from the adult respondents with children show the majority of these adults are well educated with average to above average incomes. Common excuses given by parents for lack of bicycle helmet ownership by children from one study include "never thought about purchasing a helmet," "never got around to purchasing a helmet," "child wouldn't wear it anyway," and "too expensive". In contrast, most children who are without helmets said they would wear one if they had one . There is evidence that parental rules are associated with bicycle helmet use by children.[5] Efforts by health care professionals to encourage parents to purchase bicycle helmets and enforce their use, may increase regular helmet use in children.

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F. PHYSICAL VIOLENCE

Nationwide, approximately 25,000 people die each year as the result of homicide. It is estimated that millions of other persons suffer the consequences of nonfatal violent physical assault.[1] In Arizona in 1995, 548 deaths were due to homicide. The Arizona age-adjusted homicide rate of 14.2 per 100,000 persons is greater than the U.S. age-adjusted homicide rate of 8.8 per 100,000 persons. [2] This fact reveals a significant problem and an urgent need to control violence in Arizona.

Analysis of the Arizona 1996 BRFS shows 5.2% of all respondents reported that they had been subject to physical violence in the past 12 months. Of these, 68.9% were male victims, 46.5% were 18 to 24 years of age and 60.3% reported having a high school degree or less education (Table II-F-1). Figure II-F-1 shows that 20.1% of respondents between the ages of 18 and 24 were subject to physical violence in the last 12 months. It appears the likelihood of becoming a victim of violent behavior decreases as age increases.

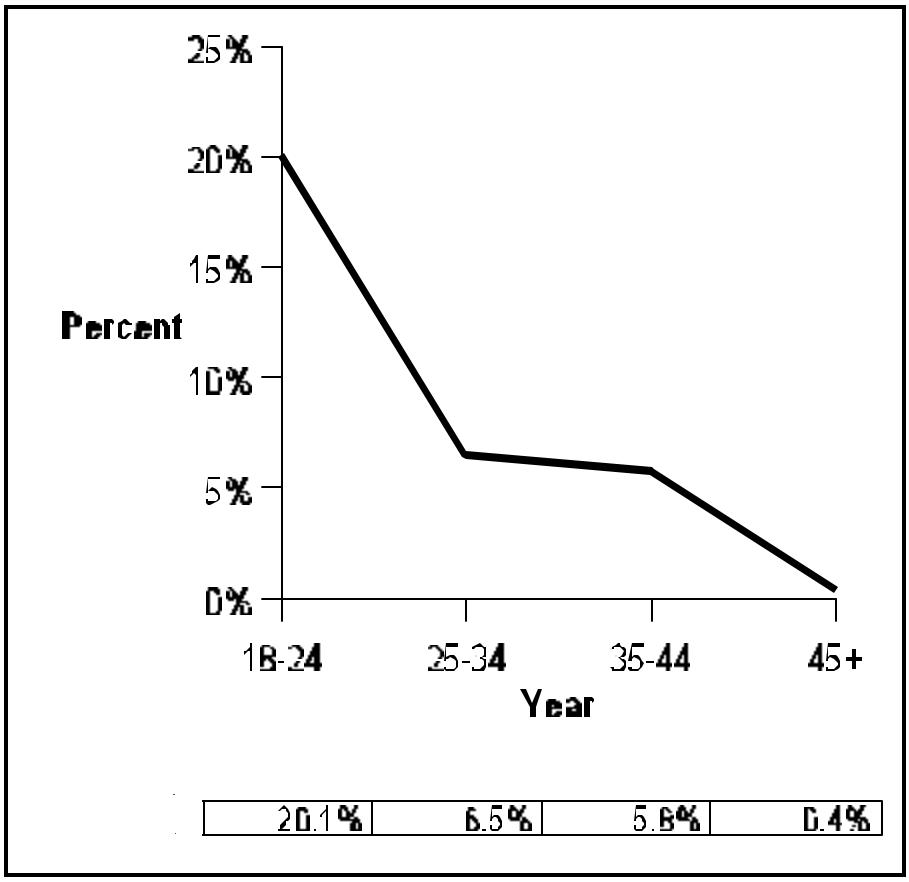

Figure II-F-1. 1996 percent of BRFS respondents from each age group reporting they were a victim of physical violence in the last 12 months.

Among persons subject to violent behavior within the last 12 months, 20.5% reported that they were the subject of this behavior 3 or more times, and 71.3% of these frequently victimized persons were male. Not surprisingly, out of those subjected to physical violence, 33.5% of females reported incurring injury where as only 25.2% of males reported being injured.

Understanding patterns of physical violence is a necessary component to preventing its occurrence. In addition, recognition, counseling and treatment of victims is essential until more effective

1996 Arizona BRFS Characteristics of physical violence victims	
GROUPS	PERCENTAGE
Sex	
Male	
Female	
Age	
18-24	

25-34	26.6
35-44	23.2
45-54	
55-64	3.8
65+	
Education	
Never Attended School	
Elementary	26.1
Some High School	
High School Graduate or GED	34.2
Some College or Tech School	21.9
College Grad	17.8
Income	
< $10,000	7.0
$10-$14,999	11.3
$15-$19,999	
$20-$24,999	22.0
$25-$34,999	21.6
$35-$49,999	
$50-$74,999	20.8
$$75,000	
Refused/Unknown	17.3
Race	
White	74.5
Non-White	25.5
Ethnicity	
Hispanic	44.5
Non-Hispanic	55.5

Table II-F-1. 1996 BRFS results: characteristics of persons reporting that they were victims of physical violence in the past 12 months.

prevention strategies can be developed to control violent behavior.[1]

References

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G. FOLIC ACID

Folic acid is a B vitamin that helps form red blood cells and has been found to reduce the risks of certain types of birth defects, cancer and cardiovascular disease.[1] While folic acid is important for everyone's health, it is especially vital for women of childbearing age. Studies have shown that up to 50% of neural tube defects (NTDs) such as spina bifida and anencephaly are preventable through adequate intake of folic acid.[2]

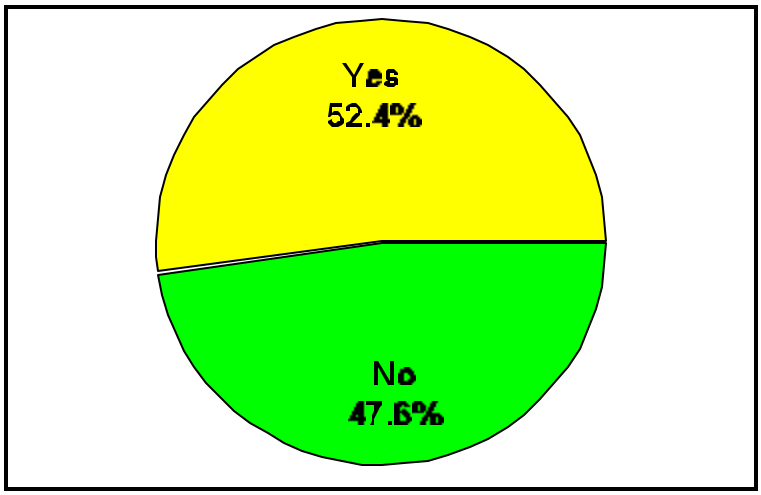

Figure II-G-1.. AZ women of childbearing age (18-44) responses to the 1996 BRFS question: Have you heard of folic acid?

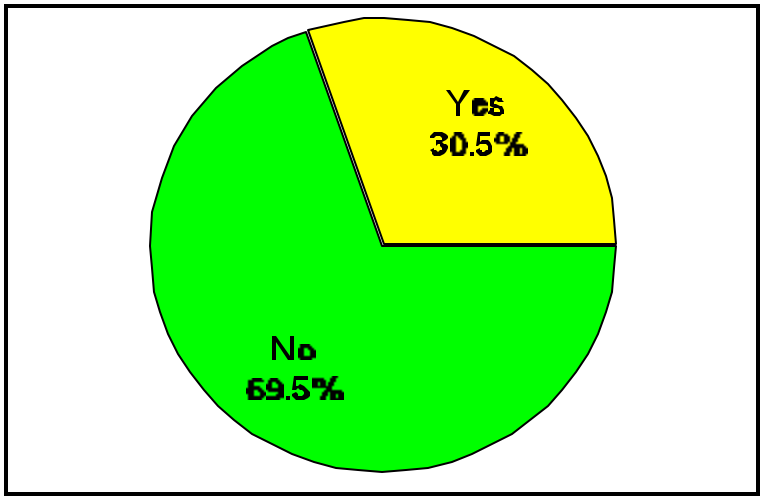

Figure II-G-2.. Responses to the 1996 BRFS question: Does folic acid prevent birth defects?

Questions regarding knowledge of folic acid were only asked of Arizona women of childbearing age (18-44). Results from the 1996 BRFS show that just over half (52.4%) of all respondents reported that they had heard of folic acid.

When asked why health experts recommend that all women of childbearing age consume 400 mcg of folic acid daily, only 30.5% knew folic acid prevented birth defects. There was a significant difference by race. White women were four times as likely to answer the question correctly than other races. The percentages in figures II-G-1. and II-G-2. suggest a need to educate Arizona women of childbearing age about folic acid and the role it plays in healthy babies.

The 1996 BRFS also surveyed women's vitamin usage. Of those responding, 47.6% report that they are taking a multivitamin. When asked how often they take a multivitamin, all women reported once every day.

1996 Arizona BRFS Characteristics of women age (18-44) who reported that they had never heard of folic acid	
GROUPS	PERCENTAGE
Sex	
Male	-
Female	100
Age	
18-24	26.9
25-34	43.7
35-44	29.4
45-54	-
55-64	-
65+	-
Education	
Never Attended School	22.5
Elementary	
Some High School	
High School Graduate or GED	40.8
Some College or Tech School	27.9
College Grad	8.8
Income	
< $10,000	6.3
$10-$14,999	
$15-$19,999	21.6
$20-$24,999	13.5
$25-$34,999	9.1
$35-$49,999	12.3
$50-$74,999	9.1
$$75,000	6.1
Refused/Unknown	22.1
Race	
White	67.8
Non-White	32.2
Ethnicity	
Hispanic	25.7
Non-Hispanic	74.3

Table II-G-1. 1996 BRFS survey results: characteristics of women who reported that they have never heard of folic acid. - = Not applicable

The final question asked women where did you first hear of folic acid, the most common response was one's physician (25%). Other leading sources were television/radio (15%), magazine/newspaper (12.9%), and friends or relatives (7.5%).

Table II-G-1. describes survey respondents who reported as having never heard of folic acid. The majority of these women (70.6%) are between the ages 18 and 35 years of age, and 77.5% of them are at least high school graduates. Women who have never heard of folic acid are primarily White (67.8%) and non-Hispanic (74.3%).

Lastly, the United States Public Health Service recommends that: All women of childbearing age in the United States who are capable of becoming pregnant should consume 0.4 mg (400 mcg) of folic acid per day for the purpose of reducing their risk of having a pregnancy affected with a neural tube defect.

References

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